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Mississippi Agricultural and Mechanical College reports

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Report of the Trustees, President and other Officers of the Agricultural and Mechanical College of Mississippi, from the organization of college to Dec. 1st, 1883

Biennial report of the Trustees, President and other Officers of the Agricultural and Mechanical College of Mississippi, 1884-'85-1890 and 1891

Biennial report of the Trustees, President and other Officers of the Mississippi Agricultural & Mechanical College, 1892 and 1893-<1894-1896>

LLMC 01-490t

BIENNIAL REPORT

OF THE

Trustees, President and Other Officers

OF THE

MISSISSIPPI

Agricultural & Mechanical College,

FOR THE

YEARS 1892 AND 1893.

Published for the Information of the Legislature and the Public.

JACKSON, MISS.,
THE CLARION-LEDGER PUBLISHING COMPANY,
1893.

REPORT OF EXECUTIVE COMMITTEE.

Hon. John M. Stone, Governor, and Ex-Officio President of the Board of Trustees of the Mississippi A. & M. College:

We have the honor to transmit to your Excellency reports of the president and faculty of the Agricultural and Mechanical College for the years 1892 and 1893.

To the full report of the president and his recommendations, the report of the appraising committee, and the reports of the heads of the departments, showing the needs of their respective departments, we call your special attention. A more thorough equipment in several departments is a pressing necessity in order to increase their efficiency and usefulness, and to place them in better shape to meet the hopes and expectations of the people of the State.

The industries of the State are almost exclusively agricultural and mechanical, and the claim of so large a body of our citizens, especially in this hour of unparalleled depression, constitute the strongest possible appeal for the complete equipment of every department of the college tending to the promotion of more enlightened and prosperous systems of agriculture and the mechanic arts.

The wisdom of the past liberal policy of the State in fostering the cause of industrial education is fully vindicated by the new lines of industrial development, the natural fruit and legitimate outgrowth of the educational system of the A. & M. College. Nowhere more than in agriculture and mechanic arts is it true that "knowledge is power," and in this age of keen and active competition, if Mississippi would keep step in industrial development with her sister States, this can be accomplished only through a system of education which not only cultivates in the young men of the State a taste and fondness for industrial pursuits, but also thoroughly equips them with that knowledge and special training so necessary to win success.

We commend the president and faculty for their efficiency, earnestness, and fidelity.

Very respectfully,

H. M. Street,
W. B. Montgomery, } Executive Committee.
A. F. Fox.

PRESIDENT'S REPORT.

To the Honorable Board of Trustees Mississippi Agricultural and Mechanical College:

GENTLEMEN:—In conformity to law, I have the honor to submit this as my report of the sessions of 1892 and 1893 (12th and 13th years of the College), to be laid before the legislature. It finds the institution better than ever before organized and equipped to carry out the spirit of the Federal and State laws. The appropriation of the last legislature enabled the Board to complete the organization of the "Mechanic Arts" department, and the college is now an agricultural and mechanical college in fact, competent to give both theoretical and practical instruction in agriculture and mechanic arts.

The academic curriculum gives a liberal and practical culture, leading in both divisions to the degree of Bachelor of Science, while the large farm with diversified crops, herds of cattle, creamery and dairy; with the horticultural grounds, including gardens, orchards, small fruits and facilities for market garden shipments, gives students every needed object lesson and practice in agriculture in its various branches. The experiment station supplements this instruction in showing a more diversified scale of scientific farming and experimenting.

Parallel with this are the shops in mechanic arts, affording the means of instructing students in the various divisions of carpentry, turning, pattern making, smelting and forging, moulding and casting (foundry work), and machine work of all kinds in boring, planing, cutting, and working iron; drawing being an important feature in connection with shop work.

The labor required of students separates in the two divisions, and manual training, except in cases where students spend their afternoons in practical work in the chemical or other laboratories to become specialists, is enforced on all students.

The experience of the two sessions shows that the students will very nearly divide equally as to agriculture and mechanic arts. Students who follow the agricultural course are paid eight cents an hour for their labor, work in shops being compulsory with them for two or four hours during the week without pay, in the sophomore year. Students taking shop work are not paid, as their work is purely educational. They work from six to eight hours a week in successive lessons from simple to more complex mechanism. The work done in each lesson is pushed till a finished piece of workmanship is turned out by the student, when he proceeds to the next lesson in regular course, and then from one division or art to another, making in wood, iron, foundry or machine work, some practical object lesson, to illusustrate the principles and lessons taught.

STUDENT LABOR.

The shops and laboratories have to a great extent solved the difficult problem of student labor, so every student will actually spend about the same time in manual training of some kind. The advantage of pay for labor is given to the agricultural students, as 81 per cent of our population live by farming, and there is some return for work.

AN INEXPENSIVE COLLEGE.

It is now demonstrated that the College is the least expensive in the State, and in the South, of its grade, and in fact, in the United States. During the session of 1893, about 100 students got through the session on less than $100 each, including board, books, uniform, lights, doctor's fee. The average necessary expense of a student for the session being about $130. A large number got through on from $60 to $80.

ORGANIZATION.

The College is now organized as complete as it can be in my judgment, to carry out the spirit of the laws bringing it into existence. The chairs cover the field of work, viz: "To benefit agriculture and the mechanic arts," including a good liberal and practical education. Many similar institutions have established a general course, neither agricultural nor mechanical, but merely for general culture. It seems to me that this is infringing on the respective State Universities and occupying their ground. Much can yet be done in elaborating and perfecting, with equipment and otherwise, our instruction in the interest of agriculture and the mechanic arts, and this should be kept constantly in mind.

CHAIRS OR DEPARTMENTS.

There are now twelve chairs or departments. Four that lay the foundation, and provide progressive liberal culture, to enable the students to master the sciences underlying agriculture and the mechanic arts, viz: The Preparatory, English, Mathematics and History and Civics, including mental and moral science, taught by Prof. Lipscomb. Eight chairs that are scientific and practical and necessary, such as Agriculture, Horticulture, Mechanic Arts and Drawing, Biology, Veterinary Science and Anatomy and Physiology, Chemistry and Physics, and Military Science and Tactics. The Agricultural Experiment Station Department makes the eighth, but is not a department for class-room instruction, and does no College work or teaching, and has a separate fund from the United States for its support. The work is for the benefit of the farmers of the State in experimenting, and attached to the College by law. It is a valuable object lesson, not only for farmers, but for students also.

ACADEMIC DEPARTMENTS.

The teaching done by the different professors is most excellent in every respect. They are skilled, conscientious gentlemen, devoted to their work, and giving almost constant time to it—in the morning hours to regular recitations, in the afternoon hours to practical work with different classes. The schedule of recitations and manual training being so arranged that each is fully occupied so as to reach every student of the College for practical or laboratory work, keeping them employed all the time. The facilities for instruction in the different departments are fairly good. I refer to the respective reports of Professors Magruder, Walker, Hutchinson, Lipscomb, White, Creelman, Butler, McKay, Welborn, Gwinner, and Steele, as giving fuller and better information than I can as to the work of their several chairs. I will only touch upon such new features or matters as I deem most important.

Professor Magruder is much pressed in his work, and should have another competent assistant.

Professor Walker is greatly in need of apparatus for illustrating the principles of theoretical mechanics, and in the new schedule of two separate courses for agriculture and mechanic arts, will need another assistant.

Since the last report a new chair of History and Civics has been organized under the management of Professor J. M. White, a graduate of the College. He also assists Professor Magruder in the English Department. His subjects are history, political economy, and civil government, in addition to teaching English. The studies in this department bear on social, business and industrial life.

Professor Lipscomb teaches moral science in addition to his duties in charge of the Preparatory Department.

The establishment of the chair of Veterinary Science is proving a most valuable and useful addition. The skilled veterinary surgeon at its head is making his influence felt all over the State, and most valuable aid is being given the people everywhere as to caring for and healing our live stock interest intelligently. The free clinic once a week is now a most popular feature, and any agricultural graduate on leaving College, can manage any ordinary case of sickness among animals, or perform any ordinary surgical operation.

First Lieutenant C. L. Steele, 18th Infantry, U. S. A., is now professor of military science and tactics and commandant of students. The college is most fortunate in getting the services of this accomplished officer of the army. He relieved First Lieutenant George W. Burr, Ordnance Department, whose promotion removed him before the expiration of his detail. This latter officer rendered the college most valuable service for nearly two years.

AGRICULTURAL DEPARTMENT.

A change was made in the professor in charge of this department, at the last commencement (June). Professor J. H. Connell, who had been with the college for several years, was elected professor of agriculture and director of the experiment station at the Texas College, and resigned his position here to accept a more lucrative salary and a larger sphere of work. Mr. W. C. Welborn, one of our graduates of the class of 1886, was elected by the Board of Trustees to take charge of this department, and assumed the duties when Professor Connell left.

The academic work is fully explained in the annual catalogue, and is up to the requirements of the institution. The farm is getting in better condition every year, and yielding better crops. From green manuring and careful cultivation the corn lands now yield from fifty to seventy bushels to the acre, while twelve years ago the average was ten bushels. The stock interests are improving also, and giving better results. Attention is called to the report of Professor Welborn, in which he says a loss of $1,500 was entailed on the butter product of the creamery this summer, for the lack of cold storage. A plant could be erected for this amount of loss, and it is hoped this can be done before the next summer. The farm has been self-sustaining since 1885, and has recovered from a loss of $10,000 by fire four years ago. Still it is far from being such a farm as the college should have. and it will require any surplus over and above meeting expenses to improve it and get illustrative help so necessary to be introduced in Mississippi.

HORICULTURAL DEPARTMENT.

This department is in excellent condition, the gardens becoming more productive and the grounds more attractive every year. The college has no more painstaking, earnest or enthusiastic worker, than the professor in charge. The orchards have not proved remunerative, as the fruit has been killed for four (4) years in succession by frosts, but strawberries, Irish potatoes, asparagus, onions and vegetables generally pay well. The garden, as an object lesson for instruction, is most valuable, and has been self-sustaining. Arrangements are almost complete for irrigating five or six acres of land when necessary, which will insure certain vegetable crops in spite of drouth in spring, summer, or fall, and afford water supply for green-houses, hot-beds, and other propagating structures. The water supply is a large artificial pool or lake, constructed during the last summer, with a fall of about ten feet to the lands to be irrigated.

MECHANIC ARTS DEPARTMENT.

The Legislature at its last session appropriated $10,000 for two years, for completing the equipment of this department. With this money, important additions have been added. A building for forge and foundry work has been erected and furnished with proper equipment. A number of first-class machines for iron work has been added, and instruction is now being given in carpentry, pattern making, foundry work and machine work.

This new department is very popular with students, and the numbers who take shop work is already beyond the capacity of the shops. This session, so far, there are over 120 students who are taking instructions in the shop, and many have to be excused for want of room. We have only twelve forges. There is now a class of seventeen students wanting this work and cannot get it. Owing to the large number wishing this mechanical instruction, the only institution affording such instruction to white boys in the State, the present equipment is far from complete and should at once be added to. The last report asked for $15,000, but only $10,000 was given. The result now is insufficient accommodation for Mississippi boys wishing this instruction.

The professor states that, even with our present outfit, it will require $1,500 a year to purchase coal and coke, oil, packing and waste, small tools, material in iron, wood and brass for class work in shops, for engineer's wages, and painting iron building. The additional equipment asked for by Professor Gwinner to place the shops in first-class condition he estimates at $5,000. Earnest attention is called to his report.

It seems as if the State should furnish all that is necessary to instruct her sons in mechanic arts, in which the people of the South are so deficient, having to import mechanics for nearly all our manufacturing enterprises.

There should be means sufficient to put an additional story on the large shop, to be used as a drawing room, as there is no suitable room at the college for this important instruction, which goes hand in hand with instruction in the mechanic arts.

AGRICULTURAL EXPERIMENT STATION.

While a department of the college, the station work is so guarded by law that the funds appropriated by Congress for its support cannot be used or expended for college purposes, but its use must be confined wholly to experiment work. It is, however, a great assistance to the college in affording object lessons for students. The working force of the station consists of five men, who are engaged wholly in station work, and are paid by station funds, together with several of the college faculty, who give part of their time to the work. There are four branch stations, one at Holly Springs, one at Lake Station, one at Boonville and one at Ocean Springs. The printed report of the director will give details of the work being done, and the bulletins sent out from time to time can be placed in the hands of every farmer in the State free of charge, if he will only send his name forward and request that they be sent to him. We, so far, send to only about 6,000 persons.

The result of our experiments with commercial fertilizers would be invaluable to farmers living in the different geological divisions of the State, if they would only utilize the information. The results also with cotton, corn, grapes, fruits, etc., are of value, and the bulletins are accessible to all farmers of the State.

ATTENDANCE.

For the session of 1892, eight postgraduates, 177 under-graduates, and 125 preparatory students, making a total of 310; 22 being in the graduating class.

For session of 1893, five post-graduates, 174 under-graduates, 83 preparatory students, total 262; 18 being in the graduating class.

The attendance to date for present session numbers 280 students.

The apportionment law passed by the last legislature went into effect for the session now in progress (1894). This law is based on the idea that some counties have been more favored than others by the College, and that county superintendants of education will look after the interests of their respective counties and see that they are represented. It virtually places the attendance of the College in their hands, and takes it out of the hands of the President and College authorities. It is yet to be seen if it is a wise law.

PURCHASE OF LAND.

Since our last report, the College has bought 60 acres of land, which divided the College farm, paying for it $10 per acre. The farm department has paid $340 of the purchase money, and the balance was paid by sale of 20 acres of the College land, authorized by legislature. There yet remains 100 acres in the centre of the College farm which divides it in two parts, and should be bought when practicable.

FERTILIZER LAW.

The "Annotated Code of 1892" contains the new fertilizer law, which provides for an entirely new system of fertilizer control, similar in some respects to the Georgia law. It went into effect in the fall of 1892, and has had one year's experience, which is highly satisfactory in securing the best grades of fertilizers and virtually eliminating all possibility of fraud. It requires a system of book-keeping, considerable office work, the placing of tags on separate packages, the careful selection and inspection of samples and packages after being put on the market, a larger system of quantitative analysis, and necessitating large amount of correspondence, traveling and detailed work. The necessary organization of this work has been perfected by the Board of Trustees, and everything is moving along nicely, so far as can be seen. The income for the support of work from sale of tags has been about consumed in making additions to the laboratory, paying salaries of employees and other necessary expenses to properly carry out the provisions of the law. The number of tons of fertilizers sold in the State is much less than was generally supposed. For details I refer to the report of the State Chemist.

ELECTRICITY.

Twenty-five years ago, electricity was unknown as a mechanical power, now $900,000,000 are invested in various kinds of electrical machinery. In the near future electricity will not only furnish light, but will furnish motive power on railroads, and to all machinery, and replace coal in supplying heat to buildings. No discovery of science has made such rapid and startling progress as electricity, and I deem it most important that the boys of Mississippi be instructed in an electrical laboratory, to fit them for industrial pursuits now just ahead. This is being done in almost every State and Mississippi should not be left behind. $10,000 would light the grounds and dormitory, and other buildings, and furnish the laboratory for instruction. This addition is but a sequence of the mechanical department.

There is great danger to public property from use of kerosine lamps by careless students. It costs about $750 a year for oil; and an electric plant would not only remove this danger but cheapen lights for use of students.

THE LIBRARY.

The library is now the most pressing want of the College. Only $2,000 has been spent for technical and literary books, and these, from constant use by students, are almost worn out. The library consists mainly of United States government books, (bound volumes.) It is deficient in technical and literary books. There are but few books of reference even. I urgently appeal to the legislature for $5,000 to start the library, to afford facilities for literary and scientific investigation. This has been a pressing want from the opening of the College. With a College doing efficient work, and whose property is valued at $250,000, and an average annual attendance of 300 students, is seems "penny wise and pound foolish" not to furnish to many Mississippi boys with a start in a library, so necessary at every institution of learning.

HEALTH.

The surgeon makes a most favorable report of the sanitary surroundings of the college. There has been but one student to die in five years. The hospital has a skilled nurse, and is provided with every comfort for students when sick, and Dr. Barr, the attending surgeon, is one of the most attentive and skilled physicians in the State.

STEWARD'S DEPARTMENT.

This department is managed with great skill. A reference to statistics shows that board is furnished cheaper than at any similar institution in the United States. The average per month is $8.50, and this includes policing of the dormitory and the college building, lights, supplies for hospital, etc. The fare is plentiful good, and wholesome.

REPAIRS OF BUILDINGS.

The value of the buildings of the college is about $112,000. Most of them have been in use for twelve years, and they need now repairs to preserve the property. The wood work of the dormitory and college need painting. Nearly all of the houses covered with shingles need recovering, and the houses need repainting. The veranda to the college building (wood) is absolutely dangerous, and one student has been injured because of its condition. The lowest possible estimate is $5000. I refer to the report of the proctor and steward, Mr. Gallaway, who itemizes the needed repairs.

PUT DARDEN MONUMENT.

The last legislature passed a law authorizing a monument to be erected to the late Capt. Put Darden on the college campus. The funds to erect the monument were raised by the patrons of husbandry of the United States and of the State of Mississippi. He was for many years Master of the National Grange and also of our State Grange. A pretty monument has been erected on the campus, a deserving tribute to a citizen, who for two years advocated before the people the establishment of this college, and who was one of its earliest and best friends.

REPORT OF THE APPRAISING COMMITTEE.

The Board of Trustees requested the following gentlemen to appraise the property of the college for the information of the legislature: viz. Hon. G. W. Bynum, of Alcorn county; Mr. E. J. Martin, of Lauderdale county, and Capt. L. D. McDowell, of Oktibbeha county.

I invite the careful attention of the legislature to the report of this committee. They spent two days in laborious work, examining everything, and fixed the value of the college property at $250,316.14. They particularly examined the buildings needing repairs to preserve the property. They also make some important recommendations with reference to the college which should have weight with the legislature. They were painstaking and careful in their work.

FINANCIAL REPORT.

In compliance with article 26, chapter 3 of the code, I submit the following:

The efficient secretary, purchasing agent, and treasurer, Mr. R. C. King, explains fully in his report the expenditure of all monies received from the State, generally and in detail, and if desired will present the vouchers and receipts themselves. He is also required to render reports at Washington, showing disposition of all funds received from the United States.

I will deal only with the funds received from the State. The legislature at its last session appropriated for the support of the college, $30,000 each year for two years, including the interest on the scrip fund, making the actual State appropriation less than $25,000 a year, and also $750 insurance for each year, or $30,750 a year. The insurance on professors' houses is paid by the professors who occupy them.

The following salaries are paid to professors and employees, viz:

President	$ 3000 00
Eleven professors	19,300 00
One assistant professor	800 00
Six tutors and assistants	3700 00
One steward and proctor in charge of buildings	1010 00
One secretary, purchasing agent and treasurer	1500 00
One night-watchman	360 00
One hospital nurse	360 00
One stenographer and type-writer in president's and secretary's office	500 00
Total	$30,530 00

Of this amonut the Sate pays	$19,118 72
The United States pays	8527 95
The Experiment Station pays	2333 33
The fertilizer fees pay	550 00
Total	$30,530 00

The United States appropriation was to enlarge the sphere of usefulness of the college, and the professors of mechanic arts and assistants, and veterinary surgeon were added and part salaries of faculty supplemented.

Several members of faculty and other employees give part of their time to station and fertilizer work, and are partly paid from these funds.

The balance of the State appropriation, not paid in salaries, is explained by the Secretary as paid in student labor, incidental expenses, and other items.

The farm, horticultural and chemical departments, including fertilizer analysis, are self-sustaining, and have needed no appropriation since 1885. Their receipts are barely sufficient to meet expenses, and provide constantly for more complete efficiency of the departments.

The salaries of the professors of Biology and Mechanic Arts to this time have been less than that paid to the other professors. The Board have placed them on equality, and ask an increase of $1,000 to supplement their present salaries.

The new chair of History and Civics will require $1,000 additional. The salaries of three assistants have been raised $800, making an additional amount of $2,800 in all.

The College will require, as determined by the Board of Trustees, in way of regular support, from the State for the year 1894:

For salaries	$21,918 72
For student labor	4,500 00
For pay of engineer, purchase of material, etc., and for shop work, as explained in report	1,500 00
For insurance on public buildings, valued at $112,000	800 00
For incidental expenses, such as expenses of Board of Trustees, commencement expenses, pay of minister, chalk for section rooms, etc.	2,000 00
Total	$30,718 72
For support of College for year 1895	30,718 72
For two years, 1894 and 1895	$61,437 42

The experience of thirteen sessions has shown that $31,000 is the average support needed. When less was given it embarrassed the institution and retarded its progress.

The Board asks the following additions, rs fully explained in the divisions of the report, viz:

Books for library (badly needed)	$ 5,000 00

Repairs of buildings (badly needed), value, $112,000.00	5,000 00
Veranda for Academic building (actually dangerous)	2,500 00
Additional facilities for mechanical shops (as explained by Prof. Gwinner)	5,000 00
An electric laboratory, and plant for lighting buildings	10,000 00
Equipment for departments of Mathematics, Biology, and Veterinary Science	3,000 00
Total	$30,500 00

COMMITTEE TO VISIT COLLEGE.

The assistance given by Congress cannot be fully utilized until important additions are made. This assistance, in the way of money, is so guarded that none of it can be used for buildings or repairs. I am convinced that the citizens of the State, and even the Legislature, do not appreciate the benefits of the College in cheapness to students, and in affording that practical education so necessary to fit the youth of the State for the struggle of life. The crying evil of our agriculture in Mississippi is in wearing out the soil, and not adopting a system of rotation of crops. No prosperity can reach us again till a more careful and less wasteful system is adopted. This to-day is the main cause of lack of prosperity among the farming classes. The College is making this feature most important in the way of instruction and illustration. I urge the Legislature to send a large committee to inspect the College and its work, and what is needed to increase its sphere of work.

FACULTY AND STUDENTS.

I desire to commend the Faculty and other employees of the College. The continued success of the College is due more to the earnest and intelligent and conscientious work of this body of gentlemen than to any other cause, and it is my great pleasure to give them the credit.

The students, also, have been most earnest and orderly. They are faithful in doing their duty, and the good discipline prevailing at all times has enabled them to accomplish their work and progress with comfort and little friction. It is a pleasure to have charge of such students.

I desire to thank the Board of Trustees for their kind appreciation of the performance of my duties as executive officer of the College.

Respectfully submitted,
S. D. LEE,
President.

ATTENDANCE BY COUNTIES.

COUNTIES.	1891–'92	1892–93.	1893–'94	COUNTIES.	1891–'92	1892–'93	1893–'94
Adams........	3	1	2	Marshall	4	5	2
Alcorn	0	0	0	Montgomery..	1	3	1
Amite.........	0	0	0	Monroe	1	2	2
Attala........	3	1	1	Neshoba	0	0	3
Benton	0	0	0	Newton.......	5	2	1
Bolivar	4	6	2	Noxubee	8	7	11
Calhoun	0	0	0	Oktibbeha ...	58	49	49
Carroll	6	5	2	Panola	4	1	2
Chickasaw	1	3	3	Perry	5	1	2
Choctaw	1	1	0	Pearl River..	0	0	1
Claiborne	1	7	5	Pike	5	1	1
Clarke	8	9	6	Pontotoc.....	3	2	0
Clay	6	7	5	Printiss	1	0	0
Coahoma. ...	1	1	3	Quitman......	0	0	0
Copiah..... ..	10	5	6	Rankin	1	0	1
Covington.. .	0	0	3	Scott	3	1	3
DeSoto	4	0	1	Sharkey	0	1	0
Franklin.....	0	2	3	Simpson	0	0	0
Greene	0	0	2	Smith	0	0	0
Grenada	2	1	0	Sunflower....	2	2	2
Hancock	1	2	2	Tallahatchie..	2	3	1
Harrison	0	1	2	Tate	2	4	1
Hinds	7	5	6	Tippah.......	2	1	1
Holmes	14	12	3	Tishomingo ..	0	0	0
Issaquena	3	1	1	Tunica.... ..	0	0	0
Itawamba	1	0	0	Union	4	4	1
Jackson......	0	0	0	Warren	11	13	6
Jasper	2	0	0	Washington ..	6	9	8
Jefferson.....	4	3	1	Wayne	1	0	1
Jones........	4	3	3	Wilkinson ...	10	7	5
Kemper	2	2	4	Webster	2	0	0
Lafayette.....	2	0	0	Winston	0	0	0
Lauderdale...	24	16	18	Yalobusha ...	0	0	1
Lawrence	0	0	0	Yazoo	15	12	5
Leake	2	1	0	State of Ala..	1	1	2
Lee	2	4	2	State of Ky..	0	0	1
Leflore	1	2	1	State of Ind..	0	0	1
Lincoln......	2	0	0	State of La...	0	0	1
Lowndes.....	13	14	15	State of Tenn.	0	0	
Madison......	11	8	6				
Marion.......	0	3	3	TOTAL......	302	257	228

REPORT OF

COMMITTEE OF APPRAISEMENT.

Agricultural College, Mississippi,
November 22, 1893.

To the Honorable Body, the Legislature of the State of Mississippi:

The undersigned, appraisers of the property of the Mississippi Agricultural and Mechanical College, beg leave to submit the following as the result ot our investigation and labor:

INVENTORY OF COLLEGE PROPERTY, APPRAISED TUESDAY AND WEDNESDAY, NOVEMBER 21 AND 22, 1893.

College Buildings	$111,855	00
“ Land, 1808 acres	44,946	00
“ Land, 52½ acres, embracing orchards, vineyards, gardens. etc	11,550	00
“ Miscellaneous	7937	57
“ Hospital	362	45
“ Library	3902	74
“ Museum	4069	00
“ Stewards	4098	50
“ Chemicals	5610	00
“ Mechanical	11,032	24
“ Veterinary	238	80
Horticultural buildings, implements, stock, produce, etc	3636	90
Farm buildings, machinery, implements, produce, stock, tools and creamery	23,229	00
Experiment Station buildings, machinery, stock, chemicals, apparatus, etc	17,847	94
Total	$250,316	14

G. W. Bynum,
E. J. Martin,
L. D. McDowell.

The duty required of your committee was simply to appraise the property of the A. & M. College, but we beg leave of your honorable body to make the following suggestions and recommendation:

The general appearance of the buildings, grounds and general surroundings of this institution, together with the work being done in the various departments, taken together with the comparative cheap cost to the students in their efforts to gain an education, can but inspire the citizens of Mississippi with a just pride in the college. Theory and practice are taught, and our boys are prepared, at a nominal cost, for the duties of life in all the practical avocations of life.

A better acquaintance with the workings of the college, what has been done, and what may be done, if better known and understood by our people, would tend to greater interest in the college, and would result in much greater benefits to the State.

The farm we find well equipped and in excellent condition, having been greatly improved by fertilizing, tile draining, and judicious management. The horticultural department is being successfully managed, and is of great interest and advantage to the college.

The mechanical department we found under the management of Prof. Gwinner, doing a valuable work in affording an opportunity to the students to receive practical lessons in mechanics. The work shops are in successful operation and afford the much needed information and opportunities to students to learn the practical use of tools, and to become useful mechanics. It is, however, a matter of regret that the accommodations are wholly inadequate for the accommomodation of the number of students who desire to avail themselves of the advantages here presented. We visited the shops while at the college, and saw students who desired to take advantage of the shop practice denied because there was not ample room and accommodations in the work shops for them. We earnestly recommend that ample appropriation be made by your honorable body to enlarge and equip additional shop room, so that no young man be denied the advantages afforded here. This appropriation of $5000 asked for by the management of the college we regard as moderate and should be given. It will no doubt do very much in future to develop our country and bring our resources to the attention of the industrial world. There are some machine tools very necessary in the shop, such as lathes, grinding machines, milling machines, and would add very much to the advantages already had in teaching practical lessons in shop practice. We feel that we could not say too much in support of this department of the college, and trust that you will make a liberal appropriation for its use.

We are specially pleased with the management of General Lee; and, in fact, the entire faculty impressed us as efficient, faithful, and energetic in the discharge of their duties.

We visited personally the mess hall and found it neatly and cleanly kept, and the table supplied with an ample provision of good, wholesome food.

We find the college very deficient in books in the library; that only $2000 have been spent, up to this time, for books of reference mainly, and that these books, from constant use, are nearly worn out. A college like this should be well equipped in a library, and we earnestly recommend that an appropriation of $5000 be made to purchase additional books of a technical and literary bearing. We consider a good library as now the most pressing want of the college.

A veterinary department, under the auspices of Prof. Butler, has been added to the college, which will be of incalculable advantage to young Mississippians who avail themselves of the opportunities offered by the State in diagnosing and treating all diseases and accidents which may befall live stock, but an appropriation is needed and recommended to further develop this science.

From a sanitary standpoint we suggest that greater facilities than now exist be extended to the young men for bathing. "Cleanliness is next to Godliness," and young collegiates who perform manual labor in the fields or the shops will necessarily become much soiled from soot, dust, and perspiration.

The veranda of the college we find upon inspection to be very unsafe and dangerous, now being propped up and tied under the directions of Gen. Lee to prevent further accident, one young man having already been crippled. One constructed of iron would in the long run be cheaper than wood, notwithstanding the present cost would be somewhat greater.

We would also recommend an appropriation by the legislature to establish an electric plant by the means of which the college, work-shops, laboratories, dormitory, etc., can be lighted, thereby lessening the danger of loss by fire to the State of so valuable a property as the A. & M. College with its adjuncts. (signed.)

L. D. MCDOWELL,
G. W. BYNUM,
E. J. MARTIN,
Committee.

REPORT OF SECRETARY.

Agricultural College, Mississippi,
November 4, 1893.

Gen. S. D. Lee, President, A. & M. College.

Dear Sir: I submit herewith my report as Secretary, embracing a statement showing the total receipts and disbursements since November 28, 1891.

The legislative appropriation, combined with the amounts received from matriculation fees, etc., has been expended, as explained, for salaries, student labor, building and equipment, repairs on buildings, printing, postage, stationery, travelling expenses of trustees, commencement expenses, chalk and coal for section rooms, for pay of minister, and for general incidental expenses.

The buildings have not had all needed repairs owing to a lack of funds for that purpose. This delay renders the necessity for repairs now needed even greater than it would have been had we been able to keep the buildings in good condition. The veranda around the college building is dangerous and should at once be replaced with a new one. The Professors' houses are in bad condition. Nearly all of them need repainting and recovering.

The one hundred iron bedsteads bought about three years ago have given great satisfaction and comfort to the students who have used them. We should have at least one hundred more to give each student one.

The amount appropriated for insurance has enabled us to carry some insurance on all the main buildings. A smaller appropriation for this purpose would have been insufficient. We have with the State Treasurer sufficient money to pay usual expenses to January 1, 1894, when all of our State appropriation will be exhausted.

Please find the figures referred to above under the head of

GENERAL STATEMENT.

Of Receipts and Disbursements, A. & M. College, from November 28, 1891, to November 24, 1893.

RECEIPTS.

From State Treasurer:		
From appropriation, including interest on land scrip..........	$ 60,731 01	
From appropriation for insurance.	1,406 28—	$ 62,137 29
From marticulations and tuition fees	1,500 00	
From rent of iron bedsteads..	107 00	
From miscellaneous sales........	32 65—	1,639 65
From sales of fertilizer tags.......	8,011 00	
From fees for chemical analyses...	2,739 15	
From fees from students for chemicals and glassware..........	64 45	
From miscellaneous sales.........	10 90—	$ 10,825 50
From Farm Produce:		
From sales of milk..............	4,325 48	
From sales of beef..............	3,365 10	
From sales of cotton	360 10	
From sales of pigs...............	337 30	
From sales of seeds..............	316 53	
From sales of land..............	268 75	
From sales of pasturage..........	199 80	
From sales of field crops.........	155 31	
From sale of work stock..........	154 00	
From sale of feed................	139 70	
From sales of wood..............	72 00	
From miscellaneous sales........	173 01—	$ 9,867 08
From Horticultural Produce:		
From sales of fruit and vegetables.	2,820 50	
From sales of plants.............	177 40	
From sales of hay	40 50	
From sales of hogs...............	21 00	
From sales of box material.......	13 60—	$ 3,073 00
From Mechanical Department:		
From sales and repairs...........		48 80
Balance cash on hand, Nov. 28th, 1891..........................		490 73
		$ 88,082 05

DISBURSEMENTS.

For salaries	$ 37,690 74	
For student labor	7,186 18	
For insurance	1,462 08	
For building and equipment	1,582 03	
For repairs of buildings	1,677 74	
For incidentals	2,235 96	
For printing, postage and stationery	1,368 10	
For books, papers and periodicals	354 48	$ 53,557 31
For Chemical Expenses:		
For chemical & apparatus	3,223 49	
For fertilizer tags	1,658 19	
For collecting fertilizer samples	265 23	
For salaries	3,638 77	
For repairs	1,107 12	
For fixtures	489 49	
For printing, postage and stationery	545 76	
For labor	144 10	
For fuel	21 40	$ 11,093 55
For Farm Expenses, Equipment and Development:		
For labor	4,261 81	
For beef cattle	1,852 52	
For feed	942 55	
For machinery and implements	730 20	
For land	608 75	
For buildings	393 69	
For repairs	338 88	
For permanent improvement	250 65	
For seeds	233 83	
For milk herd	148 46	
For fencing	115 26	
For pigs	99 30	
For postage and stationery	55 49	
For miscellaneous	44 00	$ 10,075 19
For Horticultural Expenses, Equipment and Development:		
For labor	1,748 15	
For seeds and plants	362 57	
For box material	253 41	
For implements	242 66	

For repairs	145 94	
For buildings	106 84	
For fertilizers	95 90	
For water supply	93 39	
For postage and stationery	46 71	
For feed	5 30	$ 3,100 87
For Mechanical Expenses, Equipment and Development:		
For apparatus	5,713 93	
For building	1,773 90	
For material	1,311 07	
For labor	536 79	
For machinery	533 52	
For repairs	27 05	$ 9,896 26
Balance cash on hand		358 87
		$ 88,082 05

Respectfully submitted,
R. C. KING, Secretary.

DEPARTMENT REPORTS.

DEPARTMENT OF ENGLISH,

AGRICULTURAL COLLEGE,
November 4, 1893.

Gen. S. D. Lee, President, Mississippi A. & M. College:

DEAR SIR: In accordance with instructions received through the Secretary of the Board of Trustees, dated October 17th of the current year, I submit the biennial report of the Department of English and a like report of the Library, embracing the sessions of 1891–2 and 1892–3.

During the session of 1891–2, there were enrolled in this department one hundred and eighty-five (185) students, as follows: eight (8) graduate students, studying for the degree of Master of Science (M. Sc.); twenty-one (21) under-graduates, pursuing the study of literature two terms in the senior class; twenty-four (24) taking criticism one term, political economy with civil government one term, and general history one term, in the junior class; thirty-five (35) studying rhetoric two terms in the sophomore class; and ninety-seven (97) taking the English course (grammar two terms, etymology one term, and English history one term) assigned to the first collegiate year.

In my biennial report of November 13, 1891, after showing the large amount of work assigned to my department, I said:

"A cursory glance at the amount of work done by this department will show that it is over-loaded; and a thorough examination will prove that none of the work can be omitted, if justice be done the student."

In accordance with this statement, at the close of the session of 1891–2, the organization of the Department of English was materially changed by the board of trustees. The subjects of history, political economy, and civil government, previously assigned to this department, have, since June 14, 1892, constituted the Department of History and Civics. Hence, for the session of 1892–3, these subjects were not taught under my supervision. During the last session, there were enrolled in the department as re-organized one hundred and seventy-nine (179) students, of whom five (5) were graduate students, studying for the degree of Master of Science; twenty (20) were seniors, studying literature; fourteen were juniors, taking lectures on literary criticism; forty-eight (48) were sophomores, studying rhetoric; and ninety-two (92) were freshmen, studying English grammar and the historical etymology of English words.

For the session now in progress, there are six (6) graduate students, eight (8) seniors, twenty-five (25) juniors, thirty-nine (39) sophomores, and ninety-seven (97) freshmen, an aggregate of one hundred and seventy-five students taking English in the regular college course.

I reiterate what I stated in my report two years ago: this department should have as its adjunct professor a specialist in elocution, who should also be a competent critic of manuscript. There is no instruction more loudly called for by the class of students attending this college than reading and speaking English intelligently, intelligibly, and forcibly. Living, as these students do, in the rural districts mostly, they come to us poorly equipped in the power to interpret books, or to reproduce in oral expression the thought that struggles to be born, but oftenest dies on the untrained lips of the youth who has been deprived of early drill in giving a correct and forcible oral expression to the written or printed word. We have to deal, not only with students who are ignorant of good English, but with those who have acquired very bad habits in speaking and writing their native tongue. Using the metaphor of a late writer on this subject, "before we can sow and harrow in the seeds of good English, we must dig out the stumps of ugly habits that pre-occupy the ground." No other department starts under like conditions. A student of mathematics has formed no erroneous notions of the multiplication table—notions that have to be eradicated before he can be taught to follow the processes of advanced mathematics. This is not the case in English studies. Habits of mispronunciation, of misspelling, of false syntax, of slang, of "Negro English," are already fixed in the oral and written language of a large number of those who come to us for instruction. The teaching force allowed to this department is, therefore, not in accordance with the best interests of the student; for, however bright his natural abilities may be, the use of language is taken as a test of his culture—"a man is known by the English he keeps."

The time out of the lecture-room required to criticise the various papers that ought to be written is greater than the twenty-five hours per week of lecture-room work now performed by the head of this department: yet none of this work can be omitted, if we are to accomplish all that is necessary to educate our students to read, to write, and to speak, with average correctness and force.

The number of instructors allowed to this department, then, if I am right in the statements made above, is less than the necessities of the case demand, since the whole burden of cultivation in written and oral expression is laid upon English,—Latin, Greek, and modern foreign languages not forming a part of our curriculum.

There is another point also to which attention should be called. In other departments the classes are so divided as to give the mechanical students to one instructor, while the agricultural students recite to another. The students of both courses come to the English recitations, giving this department less time for individual instruction than falls to the share of other departments.

I do not make this argument for an increase of teaching force in the Department of English from a selfish motive, for I shall consider my mission here complete when I shall have succeeded in organizing the instruction in English so as to attain the highest efficiency possible.

I therefore respectfully urge that the Legislature be requested to so increase the appropriations for teaching as to permit the Board of Trustees to give the department the additional teaching force necessary to make the instruction thorough and practical.

Ten years ago, on taking charge of the instruction in English, I found the following time assigned to the various classes: Freshman, one term and a half, five hours per week; sophomore, two terms, five hours per week; junior, one term, five hours per week; senior, one term, five hours per week. We now have for the freshman class three terms, six and a half hours per week, an increase in time of one hundred and sixty (160) per cent.; for the sophomore, two terms, six and a half hours per week, a gain of forty-five (45) per cent. In the junior class the time remains unchanged, while in the senior it has been doubled, thus making the average time devoted to English in the college curriculum more than seventy-five (75) per cent. greater than before my incumbency. In all these accessions no time has been taken from any other department and given to English; but, on the contrary, English surrendered a half-term to mathematics during the session of 1890-91. This increase in the hours devoted to English has been accomplished by utilizing time previously unoccupied by academic work, and that without impinging upon other departments, academic or industrial.

The work done for the last two sessions has been fairly good, especially when we consider the two main disadvantages under which we labor—a small teaching force and the acceptance of students not well prepared for freshman English, in the hope of coaching these over their deficiencies, as we carry them through the regular curriculum of the department. I am sure, if we ever attain a high standard of English scholarship, we must require a higher standard of preparation for entrance into our lowest college class, and, consequently, we must not attempt to coach students in those elementary principles of language that should be acquired in the public schools of the State. However, I can see no other method of procedure until the rural public schools pay more attention to English; and this is not to be expected, unless parents demand a better training in our vernacular, and insist that their children shall not acquire the slovenly habits of speech caught from the "Negro English" spoken all around us.

COLLATERAL READING, ESSAYS, AND ADDRESSES.

By means of precis-writing, the department has been able to enforce the reading of a limited number of collaterals. This reading is intended, primarily, to foster a taste for industrial life, but at the same time to cultivate the student's literary style, and to induce him to form correct habits of acquiring knowledge from the reading of books. The course embraces ten complete works, selected in the two lower college classes with regard to the wants of students attending an industrial school. In the two higher classes, the selection is made with more direct reference to general culture and the idiosyncrasies of the individual student.

The labor of correcting the manuscripts of the three upper classes is enormous. It is impossible for one man to do all the work of this character that ought to be done, and at the same time to do it in a manner that will be most instructive to the student. In the sophomore class alone (under its present organization) there will be, during the ensuing session, three hundred and twelve (312) extended essays and addresses for criticism, and nine hundred and thirty-six (936) abstracts to be examined, besides other written work, such as examination papers, written recitations, etc. The same work in proportion must be done for the two upper classes; and in this work I can get no assistance from Mr. White, the professor of history and civics, during the portion of his time assigned to my department, since he has a large number of papers to examine and correct for the freshman class; though lately this work has been divided by the kindness of Dr. Butler, who gives three hours per week to this instruction. The burden of this practical work has been especially felt for the last two sessions—a period during which the college has been passing through a transition stage, leaving behind its initial form and progressing to the complex organization in which we now find it complete.

THE LIBRARY.

The library, with the additions made during the last two years, contains 3,459 bound volumes, the most of these being government documents. Its efficiency is not in accordance with the needs of a technological institution of the class to which the Mississippi Agricultural and Mechanical College belongs. I therefore respectfully request that you urgently insist upon our legislature's giving us the means to purchase a library that will afford ample facilities for literary and scientific investigation. I am convinced that our legislators are not "penny wise and pound foolish;" and it seems to me that this would be the case if the State is to provide buildings, apparatus, professors, and other means of educating her youths, but shall refuse to give us an ample library, the most efficient of all means in acquiring knowledge—the one means, indeed, by which a man may educate himself without professors or apparatus, if he be an earnest seeker after knowledge.

I again call attention to the fact that the arrangement by which we have a student to do the library work is not satisfactory. With the large amount of academic work in my department, I have very little time to devote to library supervision, and the average student is not capable of performing all the duties of librarian at a great institution like this. A librarian should devote his entire time to the work, and he should be so familiar with all departments of knowledge as to be able to direct students in their researches, and to put into their hands the best books the library affords on any subject that they may have under investigation. There is no want at this institution more imperative than a well-filled library under the management of a trained librarian.

The reading-room of the library is furnished with periodicals consisting of the leading magazines and representative newspapers of the United States, some foreign journals and reviews, and a large number of the newspapers issued by our State press. These last reach the tables of our reading-room through the courtesy and liberality of the editors and publishers, and are most acceptable to students, who in this way receive news of what is happening in all parts of the State.

There has been spent during the last two years for periodicals the sum of $354.48.

The foregoing report of the Department of English and the above report of the Library are respectfully submitted.

W. H. MAGRUDER,
Professor of English.

DEPARTMENT OF MATHEMATICS.

AGRICULTURAL AND MECHANICAL COLLEGE,
November 1, 1891.

Gen. S. D. Lee, President:

SIR—I have the honor to submit the following biennial report as Professor of Mathematics:

The freshman class is instructed in Bowser's College Algebra three hours a week and in Thompson's Commercial Arithmetic two hours a week during the first term. At the close of this term, a final examination on the commercial arithmetic is given. The study of algebra is continued five hours a week during the second and third terms, and a final examination is given when the study is completed in June. A course in book-keeping and banking is given during the second term and is taught as practically as possible.

The sophomore class is instructed in Bowser's Plane and Solid Geometry during the first and second terms. Numerous original problems and exercises are required of the students to test their knowledge as they progress. The third term is devoted to Crawley's Trigonometry, with problems and practical applications. Students taking the mechanical course have also Millar's Descriptive Geometry during the third term.

The junior class is instructed in Davies' Surveying revised by Van Amringe, during the first term. For the practical or field work in surveying, the class is divided into teams of six to eight students each. The work is so arranged that all students are required to familiarize themselves in turn with the duties incident to surveying and plotting fields, calculating areas, section and cross-section leveling. Each session, in this way, several fields are surveyed with compass and plane-table. Levels are run and side-hill ditches are staked out. In all this work the students handle the instruments themselves, make their own calculations and plots, the instructor merely supervising and directing. Students taking the mechanical course have Bowser's Analytic Geometry during this term additional.

The junior class has been instructed in analytic geometry and mechanics during the second and third terms. The former course was quite brief, and given in a course of lectures. In mechanics every effort is made to give practical instruction, but lack of equipments (mentioned below) renders this very difficult. The problems are practical, relating to every day mechanics. In the future this course will only be given a term and a half. Students taking the mechanical course will have Bowser's Differential Calculus during the second term and Bowser's Integral Calculus during the third term additional.

The agricultural class has no mathematics during the first term. The mechanical senior class will take up strength of materials and analytic mechanics during this term.

The entire class has been instructed in civil engineering during the second term and one month of the third term.

The first two months is devoted to a study of building materials in the general sense; strength of materials; framing and building; roof and bridge trusses, excavations, embankments, etc. But as in mechanics, all means of illustration are entirely wanting. The last two months of the time are devoted to Shunck's Field Engineering. The practical or field work consists in laying out simple, compound and reversed curves; cross-section leveling; setting slope stakes.

The mechanical senior class will have analytic mechanics additional during the second term, and mechanical engineering the third term.

The senior class is instructed in Young's Elements of Astromomy during the last two months of the third term.

The post-graduate work in mathematics embraces conic sections, differential and integral calculus and civil engineering.

The course of mathematics is divided into two parts:

First—Pure mathematics to include the freshman and sophomore years, and the analytic geometry and calculus in the junior year; and

Second—Applied mathematics to include the other mathematics of the junior and senior years.

Thoroughness in the first part is essential to a correct understanding of the second, and for this reason it is insisted on before a student is advanced.

While the course is purely preparatory, the second is full of advantage to the student. Here he gathers the result of previous years' study.

Especially is applied mathematics of advantage to the students of an institution like this, the genius of which is to give a practical every day education.

The department is badly hampered in its efforts to give such practical instruction, by entire lack of appliances and apparatus as means of illustration, and for application of theory to practice.

With this showing I most respectfully request that some equipment be granted the mathematical department, and some books of reference for this department be added to the college library. This is a pressing need, and one which asks immediate attention, especially since the organization of the mechanical department which will be making an increasing demand on the mathematical department for thoroughness in instruction and the application of the theory to practical purposes.

I append a list of articles which would add greatly to the teaching facilities of the department.

The method of *object lessons* is now generally adopted to instill first principles, and I respectfully ask the means to follow this method.

I ask the following:

MEANS OF ILLUSTRATING MECHANICS.

Articles.	Catalogue Price.	
The parallelogram of forces	20 to 50	Marks.
The bent lever	30 to 45	"
The inclined plane, with graduated arc and arrangement to make the force act parallel to the base	36 to 50	"
The screw	5	"
The endless screw	50	"
The apparatus for illustrating the laws of the wedge	12 to 25	"
Block and pulleys on stand	50 to 80	"
Apparatus for explaining laws of the lever	45 to 50	"
Simple windlass	20	"
Differential windlass	20	"
Apparatus for explaining the laws of stable equilibrium	24 to 25	"
Apparatus for explaining the law of equal transmission of pressure	250	"
Apparatus for showing parabolic motion of projectiles	25	"
Centrifugal machine to stand horizontal or vertical	30	"
Flattening the earth	18	"
Bohenberger's apparatus for explaining the revolution of the earth on its axis	27	"

Gyroscope, after Fessel, with counterpoise of 7½ cms	30	Marks.
Crank handle and axle	15	"
Chain pulley with singly groove	34	"
Breast wheel constructed of timber	175	"
Overshot wheel constructed of timber	180	"
Now pressure turbine wheel with guide blades	430	"
Independent wharf crane	150	"

MEANS OF ILLUSTRATING CIVIL ENGINEERING.

Portion of house corner with frame work	14	"
A. Frame work of simple beams	27	"
B. Frame work of crossed beams		
C. " " " " with furry		
Single timber connections 1 to 73, Schroder's collection	116	"
Double beam construction	62	"
Simple shed roof, height—length	14	"
Simple shed roof, with collar beams	15	"
Shed roof, height ¼ length	16	"
Roof truss, height ⅛ length	26	"
Vertical roof truss with single collar braces, collar beams	26	"
Various stone facings and joints	5	"
Door and window semi-circular arch	11	"
Elliptical and parabolic arch	14	"
Models of simple King and Queen post truss, framing ditches for draining meadows, securing embankments and dams	53	"
Books of reference on architecture, etc	$50	

The above list is very complete, and possibly beyond the ability of the State at present. I ask, however, that something, if not all asked, be granted. Eighteen hundred or two thousand dollars will fit up the department in this line very well. I again ask for something, as the department is at present in much need.

Property belonging to mathematical department: 1 Vernier solar transit; 1 theodolite; 1 plane table; 1 Vernier compass; 20 loaded pins; 1 66 foot steel chain (broken) and some apparatus in construction by mechanical department.

The above instruments have been in constant use in the departments of agriculture, horticulture and mathematics, and are in good condition considering the use made of them.

I have been assisted in my work by 1st Lieut. George W. Burr, relieving 1st Lieut. John V. White, and 1st Lieut. C.

L. Steele, relieving 1st Lieut. Geo. W. Burr, all of United States Army, as Assistant Professors of Mathematics, and Mr. J. C. Herbert as Instructor in Algebra, and Mr. A. M. Maxwell, as instructor in book-keeping. My connection and associations with all of these gentlemen have been most pleasant, and I would commend most highly the high grade of instruction and the thoroughness in their teaching.

Very respectfully submitted,

B. M. Walker,
Professor of Mathemtaics.

DEPARTMENT OF CHEMISTRY AND PHYSICS.

Mississippi A. and M. College,
November 1, 1893.

Gen. S. D. Lee, President:

Dear Sir—I have the honor to submit, herewith, a biennial report of the Department of Chemistry for the sessions of 1891–'92 and 1892–'93.

This Department teaches Chemistry, Physics, and Meteorology. The course in Chemistry is conveniently divided into General, Analytical, Agricultural, and Applied Chemistry. Under the head of General Chemistry, is taught the the history, preparation, properties, and uses of the elementary forms of matter and their most important compounds ; the calculation of the volumes of gasses, the writing of reactions, the extraction of metals from their ores, the manufacture of glass, porcelain, brick, tile, explosives, soap, leather, cement, and sugar; and the chemistry of dyeing and calico printing. One hour a day is given to this work for six months of the sophomore year.

Under the head of Analytical Chemistry the student is taught the proper manipulation of apparatus in the different operations of chemical analysis; such as, filtration, neutralization, acidification, alkalization, washing precipitates, ignition, titration, weighing, and the use of the blow-pipe; the separation of the metals and acids into groups and the separation of the members of the groups from each other and the special tests for the different important acids and metals. An analysis of a fertilizer, a soil, and a food-stuff is also made. Each student has his own desk, apparatus, and reagents, and performs his work under the supervision of the instructor. He is also required to write out reactions and explain the chemistry involved in each test and scheme for analysis. This constitutes the work of the Junior Class, who devote one hour a day for six months to it.

After thus obtaining an intelligent idea of matter and matter changes, or the nature of chemistry and chemical action, as well as some knowledge of soils, fertilizers, and foods, the study of agricultural chemistry is taken up. The study of the atmosphere and the soil in their relation to plant growth; the exhaustion and restoration of soil fertility; the chemical action of soils; the influence of the physical properties of soils on soil water and nitrification, and consequently, on plantgrowth; stimulant and nutritive fertilizers and fertilizer materials. the planning and making of field tests with fertilizers, together with a study of the compostion of foods and the principles of rational feeding, constitutes the work done in the study of the chemistry involved in the practice of rational agriculture. To the study of this part of chemistry the members of the Senior Class devote one hour a day for six months. This class has a six weeks course in Meteorology, gaining a knowledge of such atmospheric phenomena as clouds, rain, hail, dew, frost, and snow; winds, storms, and electrical phenomena; and the distribution of heat over the surface of the earth.

In Elementary Physics, which is taught during the first term of the Sophomore year, the student learns of the constitution and properties of matter, force, motion, heat, sound, electricity, and light.

The Laboratory is well equipped for teaching chemistry, and is very well equipped for teaching Physics. An effort is made to confine the teaching in this department to those portionsof the subjects which are most intimately conneted with the intelligent practice of agriculture or other scientific pursuits. All the teaching has been done by myself. The work of the present session is progressing quite satisfactorily.

The work of the Fertilizer Control is also done in this department, a detailed account of which will be found elsewhere in my report as State Chemist.

During the summer just past, the inside of the laboratory building was ceiled and otherwise put in better condition, both for teaching and for analytical work. We have reason to be gratified at the improvement and progress that has been made in this department during the last two years. It is steadily improving in facilities for instruction and for practical work. Respectfully submitted,

W. L. HUTCHINSON,
Professor of Chemistry.

DEPARTMENT OF VETERINARY SCIENCE AND HUMAN ANATOMY AND PHYSIOLOGY.

AGRICULTURAL COLLEGE, MISS.
November 1, 1893.

Gen. S. D. Lee, President:

MY DEAR SIR: I have the honor to submit a report of the work of the Department of Veterinary Science and Human Anatomy and Physiology since taking charge of it, Sept. 15, 1891.

HUMAN ANATOMY AND PHYSIOLOGY.

Mechanical Course—Sophomore Class: During the first term of the Sophomore year, those students taking the mechanical course, study Human Anatomy and Physiology. The text-book used is "Martin's Human Body, Advanced Course," which, where necessary, is supplemented by lectures and illustrated by dissections, skeletons, manikins, charts, etc., with which the department is supplied.

The aim of this course in Anatomy and Physiology is to obtain for the student that liberal mind training for which biological science is so well fitted and at the same time a practical knowledge of those physiological laws, an observance of which are essential to the preservation of health.

AGRICULTURAL COURSE.

Junior Class: During the second or winter term of the Junior year, those students taking the Agricultural Course study Human Anatomy and Physiology for one hour a day. A knowledge of Anatomy and Physiology is necessary to a correct understanding of the diseases of the animal body and their proper treatment. There is, however, a marked similarity in Human and Veterinary Anatomy and Physiology. Therefore, since these agricultural students also study veterinary science proper, comparative anatomy and physiology is taught, but the human body is used as the type. In order that the student may properly understand the principles of scientific stock-feeding, the physiology of digestion is given special attention, while the nature of the various food stuffs is considered from a hygienic and economic standpoint.

Practical Work: For six hours a week during half the winter term, the above class is engaged in practical work in the Physiological Laboratory. This work consists chiefly of dissections of such small animals as the dog and cat.

VETERINARY SCIENCE.

Agricultural Course.—Senior Class: Those students taking the agricultural course receive instruction in vetrinary science for an hour a day during the whole senior year. The first half of the first term is devoted to especially important veterinary anatomy, while the last half of this term is taken up with the study of the actions and uses of those drugs and preparations used in medical practice. The students are taught the effects of the different remedies on the animal system and the proper dose of each. During the last two terms the principles and practice of veterinary medicine and surgery are taught by means of a course of lectures on those diseases and injuries most frequently met with in the domesticated animals. The nature, causes, and symptoms of the common diseases are described and the proper remedies for their treatment pointed out. The correct surgical treatment of all injuries is also described. In short, this course of lectures covers the practice of medicine, surgery, obstetrics, lameness, veterinary hygiene, etc.

The time is not sufficient for a thorough education in veterinary science, therefore, our aim is to make the course one of practical value to the prospective stock owner rather than to turn out fully competent veterinarians. A theoretical knowledge of the science is important, but especial value and importance is attached to a practical knowledge of the subject. This can only be obtained in actual practice, and therefore a clinic has been established. For two hours on one day of every week during the college year, all sick or diseased stock brought to the College, is treated at a nominal charge to the owner. In this way an abundance of material for practical instruction is obtained, the number of cases ranging from eight to twelve or more, at each clinic. The students become familiar with the proper handling of stock, and the administration of medicines. They also learn from personal observation the symptoms of each disease, and the effects of medicines on the same. During the latter portion of the year they are required to perform minor surgical operations and prescribe for cases. At present we are only partially equipped for this work. A building has been erected for an operating room and hospital, and a few instruments purchased, but we are still in need of funds to secure an operating table and other necessary instruments.

During one-half of the winter term this class spends six hours a week in laboratory work, which is occupied in dissecting and other practical work relating to veterinary science.

Preparatory Department—A course of lectures has been delivered each year to the students in the Preparatory Department, on the selection and management of stock. I have also taught geography and United States history in the Preparatory Department each year for one or two hours during one or two terms; and I am now teaching three hours a week for the Department of Englsh.

The Department is in very great need of a suitable classroom.

Respectfully submitted,
TAIT BUTLER,
Veterinarian.

DEPARTMENT OF BIOLOGY.

MISSISSIPPI A. & M. COLLEGE,
OCTOBER 25, 1893.

Gen. S. D. Lee, President:

DEAR SIR: I have the honor of presenting to you the fifth biennial report of work done in this department.

During the sessions of 1891-'92 and 1892-'93 the following course of study was pursued:

PREPARATORY CLASS—BOTANY.

During the second term I delivered to the students in the preparatory department a course of twelve lectures on the elements of practical botany. I endeavored to direct their observations in the field and garden to the habits of plants, and by examination of fresh specimens in the class and the use of charts, the students came to understand the laws that govern the vegetable world. They took careful notes, and were graded on recitation.

FRESHMAN CLASS—BOTANY.

Structural botany is taught to this class during the third term. We analyse and classify the most common wild flowers and identify the most injurious weeds. The freshmen are doing as good work as did the juniors when they studied this work, and I am much pleased with the results obtained since the transfer of botany from the junior class to to the freshman class.

SOPHOMORE CLASS—GEOLOGY.

During the second term this class takes a course of lectures in geology, embracing discussions on the formation and arrangement of the layers composing the earth's crust; the nature of the soils of our own State, and their natural classification and resources are noted; the economic value of our marls and cements, and the occurrence of lime stones and building stones.

JUNIOR CLASS—ENTOMOLOGY.

The first term of this year is devoted to the study of entomology. The lectures embrace such topics as, anatomy of insects, their transformation, development, geographical distribution and classification. The life, history and remedies of those insects injurious to vegetation are studied, and each member of the class makes a private collection of insects, illustrating the orders and principal families. During the last half of the term, six hours a week, in the afternoons, are devoted to practical work. This is employed in collecting and classifying specimens.

ZOOLOGY, Second Term—This is taught by the inductive method. The general principles of classification, as founded on structure, are fixed in the minds of the students by a careful study of the animals themselves. The student collects his own material, dissects it, makes careful and accurate drawing of the parts subject to modification, and makes such notes of observations as will help him to remember the organs dissected.

Six weeks, six hours a week, in the afternoons, are also devoted to practical work in zoology, and this enables the student to study the comparison and classification of animals in the laboratory, and to further carry on the work begun in the morning class.

SENIOR CLASS—BOTANY.

Physiological botany is taught during the first term. With the assistance of compound miscroscopes, tne students dissect plants, noting their cellular structure, mode of growth, movement of fluids, arrangement of tissues, etc. The class of last year made greater progress than any of its predecessors, and I feel sure that our enlarged rooms and thereby better facility for work, inspires students to make greater exertions, and so accomplish more and better results than when confined and cramped.

MUSEUM.

A few additions have been made to the exhibits in the museum: A collection of fossils of the rotten limestone group, by members of the class of '93; miscellaneous insects, collected by members of the classes in entomology; samples of rock from different parts of the State; a general collection of soils and a mixed collection of minerals, from the department of chemistry.

ADDITIONAL ROOM.

Thanks to your kindly assistance we have been enabled to materially enlarge our class-room. In addition we have fitted up an adjoining room for laboratory work, Dissecting tables and pans, simple microscopes and reagents have been added, and the interest and enthusiasm already manifested by the students is in itself an index of better work to be accomplished.

HERBARIUM.

The college herbarium, which has heretofore been in the Experimental Station office, is now placed in the biological laboratory, and the students in botany find it invaluable for comparison and study of plants. It contains now species of plants principally from Mississippi, Florida, and the Western States- We are adding to the collection all the time with a view to making it as complete as possible.

CAMPUS WORK.

With the assistance of five students detailed for this work we have endeavored to improve the appearance of the Campus by laying out, fertilizing and planting flower beds; trimming borders and keeping the drives clean of weeds. During last session we propagated, potted, and transplanted between three and four thousand greenhouse plants. We are indebted to the Horticultural Department for the use of tools and the hauling of wood, soil, manure, etc.

Faithfully submitted,
G. C. CREELMAN,
Professor of Biology.

DEPARTMENT OF MILITARY SCIENCE AND TACTICS.

MISSISSIPPI A. & M. COLLEGE,
November 4, 1893.

Gen. S. D. Lee, President:

DEAR SIR: I have the honor to submit the following report of the Military Department of the College, covering the period of the past two years:

This department is charged with the military instruction of the students, and under the President with the discipline of the student body. The instruction is both theoretical and practical.

ORGANIZATION.

For practical instruction and also for the purpose of discipline, the students are organized into an infantry battalion of four companies, with one major, and the usual staff and field music, the commissioned officers being taken as far as possible from the senior, and the non-commissioned officers from the junior and sophomore classes.

THEORETICAL INSTRUCTION.

This is given in the third term of the junior year, and consists of recitations in the U. S. Infantry Drill Regulations, and in lectures to the class upon military science, the course being that prescribed in orders from the War Department. In the session 1891–2 there were twenty-three (23) students in attendance upon this instruction, and in that of 1892–3, twelve (12); all of whom passed the required examination at the end of the course, excepting one student in the last named year.

PRACTICAL INSTRUCTION

Infantry Drills.—These have begun each year with the opening of the session and have been participated in by the entire student body, the course comprising what is known technically as the School of the Soldier, Company and Battalion, and Batalion Ceremonies. The time allotted for these exercises has been two hours per week from the opening of the session to December 1, one hour from December 1 to March 1, and again two hours from March 1 to the end of the session—not very considerable in amount, nevertheless sufficient to develop in the battalion a state of drill and discipline pronounced by the U. S. Army Inspector, in the official reports of annual inspections for the years considered, as "very satisfactory."

Artillery Drills—The sophomore classes from March to June have had one drill per week with the 3-inch field piece, including mechanical maneuvers. Progress satisfactory.

Target Practice—Instructions under this head has been given the senior, junior and sophomore classes. Owing to the meagre allowance of ammunition available, and the lack of a suitable target ground, the practice has been limited to a few scores only per student, and these fired at the 100 yard and 200 hundred yard ranges. Though to make expert shots under such conditions has been impossible, still the instruction given has been sufficient to impart a fair idea of the theory of rifle firing, the practical use of the military rifle and its effectiveness as a military weapon.

Besides the above, daily guard mountings have been held, and practical instruction in the duties of sentinels given.

ARMS AND EQUIPMENTS.

The arms consist of:

250 cadet rifles (Springfield) cal. 45, and accontrements (U.S.)
35 " " " " 50, " " (State.)
2 3-inch muzzle loading field pieces...............(U. S.)
21 officers swords and belts...........................(State.)
1 battalion flag (National colors) silk.......................

Blank ammunition for both the cadet rifles and artillery pieces is furnished, and also ball cartridges in limited quantities for the former.

The forty large Springfield rifles, caliber 50 and 65, of the cadet rifles, caliber 50 mentioned in the last biennial report have, upon requisitions from the adjutant general of the State, been shipped to other military organizations in the State.

DISCIPLINE.

As before stated, the discipline of the student body is included in the functions of the military department, the professor of military science and tactics having immediate supervision of the same in the capacity of Commandant of Students. This discipline, it is a pleasure to report, has been uniformly good. But few breaches of a serious nature have occurred, and of these none have been of the nature of an open resistance to lawful authority. The student officers have performed their duties well, proving themselves of great assistance to the commandant in the exercise of his functions.

DOMITORIES.

These are under the supervision of the department and are subject to frequent inspection by the commandant.

They have been carefully looked after, and needed repairs called for from time to time as necessity would arise. They are in good condition at the present time.

The same precautions exist against fire as heretofore reported with the addition of another of some importance recently adopted, *i. e.*, a heavy circular sheet iron fender for each grate, designed to arrest burning coals falling by accident from the fire and preventing them rolling to the floor. The battalion, it may be remarked here, is kept under constant training as a fire brigade.

GENERAL REMARKS.

The writer only assumed charge of the military department with the opening of the present session, in September. To his predecessor, Lieut. Geo.W. Burr, Ord. Dept. U. S. army is due therefore the credit of the work herein reported upon. No changes have been found necessary with the change of officers, nor is the need of any anticipated. The usual course of drills are in progress, with results believedto be satisfactory. The spirit of discipline in the student body is excellent; in fact, I do not see how it could well be better, the student officers being intelligent and earnest in the performance of their duties, and the students generally, orderly and well behaved. The support and encouragement given the department by the president is all that could be desired. With these to aid, no difficulty is anticipated in carrying out fully its purpose, namely, the turning out of educated well trained officers for possible future service in the country's defense, at the same time furnishing to the college the order and system so necessary in the prosecution of its complex system of instruction, and cultivating in the students themselves principles of manly honor and patriotism, conscientious performance of duty, respect to lawful authority, and a due regard for the rights of their fellow-men.

Very respectfully,

C. L. Steele,
1st Lieut. 18th U. S. Inf.
Prof. Military Science and Tactics and Com'dt of Students.

DEPARTMENT OF AGRICULTURE.

Mississippi A. & M. College,
November 1, 1893.

Gen. S. D. Lee, President:

Dear Sir: I have the honor to make my biennial report as Professor of Agriculture and Superintendent of the

College Farm. Having held this position only since June 20th of the present year, I may not make as full a report as might be desired. The work of the department is substantially the same as detailed in former reports.

The course of study seems to meet the requirements of students. I would recommend no change except to add a short course in dairying for the freshman class.

The work on the farm is progressing satisfactorily. Being composed of a narrow strip of land four miles long, it is necessarily expensive to operate. But the improvement that has been wrought in the soil for several years past by drainage, rotation of crops, green manuring, and good culture, has been so great that it is a profitable farm in spite of the disadvantages of location. These improvements, as the records show, have brought the yield of corn up from ten bushels ten years ago to over seventy bushels in 1892. A farm that was entirely abandoned is now the most productive in the entire vicinity.

As hetetofore, stock-farming is mainly adhered to as most profitable, and contributing most to the upbuilding of the farm lands. Only such crops are grown as can be fed to stock. The entire revenue of the farm is derived from the sale of beef, butter, milk, pork and pure bred cattle and hogs. We have at present an income from these sources of about $500 per month. I feel sure all expenses can be met and a nice margin for improvements left out of this sum.

The increase of our milk herd renders it necessary to have more productive land. To meet this want, I have had cleared this summer one hundred acres additional bottom land, cutting therefrom five hundred cords of wood. This wood, when sold, will fully repay the cost of the work done. This land is already well ditched, and will be expected to yield a good crop next season.

We have on hand now some $1500 worth of fat beef.

Among the needs of the department at present, may be mentioned a new barn on the lower farm in place of one of those destroyed by fire a few years ago. We also need better mules, part of those we now have being too old for profitable work.

Another thing we need badly is cold storage for our summer butter. Through the spring and summer all markets everywhere are glutted. We are forced to put our product on the market and accept a low price. Now we cannot supply the demand at a very high price. If our output of butter from May to October could have been stored, it would have saved us $1500. I have investigated this subject, and find that for the above amount a plant can be erected that would refrigerate a room large enough to hold every pound of butter produced in the county, and keep it perfectly for a whole year if necessary. I hope that the proceeds of the department may be sufficient to erect this refrigerating plant for the coming summer. It would be an object lesson to the people of the state, and give an impetus to dairying such as has not been before seen.

The financial statement will be found in the report of the Secretary.

Very truly,
W. C. Welborn.

DEPARTMENT OF HORTICULTURE.

Mississippi A. & M. College,
November 6, 1893.

Gen. S. D. Lee, President:

Dear Sir: The following report of the work done in Department of Horticulture from November 5, 1891, to date, is respectfully submitted:

INSTRUCTION.

Theoretical instruction in the class-room by lectures and by text books is supplemented and illustrated by object lessons and by practical work in the garden and orchard, Among the subjects considered by the classes named below, are the following:

Preparatory Class, First half of Second Term: The selection and the preparation of a proper soil, and the details of planting and of cultivating the home garden and orchard.

Freshman Class, First term: Soils, drainage, irrigation, fertilizers, the propagation of plants from seeds, cuttings, layers, grafts, etc.; crossing and hybridizing; the cultivating of large areas in fruits and vegetables, and the best methods of gathering, packing and shipping to local and distant markets.

Junior Class, Last Half of First Term: The work of freshman year continued; the construction and management of cold frames, hot-beds, green-houses and other propagating structures; pomology, forestry, floriculture, and landscape gardening.

At the beginning of this session the following changes in the Horticultural course were inaugurated: The junior horticulture was transferred to the sophomore class, the latter class devoting three months, instead of six weeks, to the study.

During the third term, the juniors and the seniors will devote one afternoon of each week to practical field instruction, and to the preparation of written matter on such horticultural subjects as the instructor may direct.

MEANS OF ILLUSTRATION.

Growing crops, vineyard, orchards, trees, shrubs and flowers on the campus and grounds; garden implements, packing houses and propagating structures; books and periodicals in the college library.

The equipment, consisting of garden implements, propagating structures, horticultural building, tile drains, etc., made something over two years ago, has enabled the department to do much more efficient work in the way of giving the students proper instruction and in furnishing them more work. The grounds, too, are growing more attractive, and the department is in condition to become self-sustaining.

The hundred and twenty (120) acres assigned to the department are appropriated, approximately, as follows: Twenty-five (25) acres to orchards; fourteen (14) acres to strawberries; three and a half (3½) acres to asparagus; one-half (½) acre to blackberries; ten (10) acres to vegetables; thirty (30) acres to sweet potatoes, oats and corn; thirty (30) acres to grove and woodland; seven (7) acres to peas and grass.

Most of the land is ill suited to horticultural purposes. We have endeavored to put our best work, fertilizers, etc., on the best land, and to keep the ground too poor for cultivated crops covered with grass, peas and other remunerative crops. During the past two years considerable work has been done in the way of making drives through the grounds, in filling ditches and grading down washed and uneven surfaces.

Orchard crops have not been remunerative here. The trees have received the best attention, and, each season, have developed a good crop of fruit buds. Unfortunately, the spring freezes have for four seasons past destroyed almost all the fruit in the bloom. Several hundred pear and peach trees have been added to the orchard. About eight acres of the first plantings that were on poor soil were removed. The wood has ripened up nicely this fall, and all the orchards give promise of a good crop of fruit next season.

Strawberries, asparagus, onions and Irish potatoes have proven our best paying crops for shipment to distant markets. We are increasing plantings of these as fast as facilities for making soil sufficiently fertile will permit. Aside from the college trade there is very little local demand for fruits and vegetables. Located as we are, on branch lines of railroad, our connection with fruit trains has been such that we have been compelled to ship such goods as strawberries and asparagus by express, and to pay steep prices for transportation. All of our goods, too, must be rehandled when they reach the main lines of railroad. This often injures tender, perishable goods more than does the whole ride to distant markets. With these, and other disadvantages, it is hard to compete with growers along the main lines of railroad, and we often have to drop out of the market some time before they cease to realize fair net profits.

When we consider the fact that market gardening is becoming an important industry in Mississippi, and that those who must earn their living thereby are being numbered by thousands, we are impressed with the fact that the most important work of the Department of Horticulture at this college is to send to different parts of the State skilled horticulturists. Looking to this end, the true policy, as I see it, is to undertake just so much as our facilities will permit us to do well, and no more; to work with the view, first, of making our operations educational; and, second, to realize what we can financially.

The horticultural grounds are slowly but surely increasing in productiveness. Only a small area of it has received any manure except the natural growth of grass, weeds and peas that we are yearly plowing under. Deep plowing and green manuring (nature's process) is doing the work. About fifteen (15) acres of our best soil was tile drained about three years ago. This land, only half of which has received fertilizers, is now giving us nearly twice the yield that was secured before the tile was laid. Planting may be done on the tiled soil much sooner after a heavy rainfall than on the soil not drained. This hastens the harvest of early vegetables and gives better returns for money, time and labor invested.

During the past two years the department has grown all the corn, oats, hay and fodder the teams (four large mules) could consume. The sweet potato crop (something over seven hundred bushels) has just been harvested and banked away in good condition. Since school opened we have had a good supply of vegetables for the students and the families on the campus.

Last April we began to dig a pool, which, when completed, will hold an average depth of seven feet of water, covering one acre of ground. The teams have been used in digging at such times as they could be spared from the crops. We hope to complete the pool in time to catch the winter rains. This pool will supply all the water needed at the greenhouses and other propagating structures, and a sufficient surplus to irrigate four of five acres of our best garden land in the valley below.

This water supply will aid very materially in the propagation of flowers and garden plants for beautifying the grounds and for sale; also in making summer and fall gardening a certainty, so far as preventing the disastrous effects of drouth are concerned. In the purchase of pipes and in placing the same in position to convey water from the pool to the points where it is needed for irrigation, it will require an outlay of about two hundred (200) dollars.

I am glad to report that the department is out of debt; that the teams, archards, growing crops, etc., are in good condition; that we are well up with our work, and that the students with me, both in the class-room and in the field, are manifesting more interest in horticulture and in horticultural work than ever before.

I am, very respectfully,
A. B. McKAY,
Professor of Horticulture.

EXPERIMENT STATION.

MISSISSIPPI A. & M. COLLEGE,
NOVEMBER 1, 1893.

Gen. S. D. Lee, President:

SIR: I have the honor to present the following report in regard to the Agricultural Experiment Station.

The Station was organized in March, 1888, under the provisions of the "Hatch Act," and, by the Act of the Legislature accepting the grant, is made a department of the College. The Congressional appropriation for the support of the Station, while adding greatly to the usefulness of the College, by providing object lessons for the students, was so guarded that it cannot be used or expended for College purposes, but its use must be confined wholly to experiment work.

From its own funds the Station has erected the buildings necessary for its work, provided a fair working equipment of tools, machinery and apparatus, has fenced its fields and laid about three miles of tile drain. The working force of the Station consists of five men, who are engaged wholly in Station work and are paid from Station funds, together with five members of the College faculty, each of whom gives a portion of his time to the Station, from which he receives a portion of his salary. Four branch stations have been established; two for special work with cotton, at Holly Springs, in Marshall county, and at Lake, in Newton county; and two others for special work with fruits, at Ocean Springs in Jackson county, and at Booneville, in Prentiss county. This arrangement distributes the field work of the Station over the entire State, and is giving very satisfactory results.

The principal lines of experimentation have been with varieties of cotton and corn; with fertilizers for different crops and for different soils, and with different methods of application; with different systems of cultivation; with the cultivation of crops for green manuring; with the fattening and milk-producing properties of different foods; with the cultivation of wheat, flax, castor beans, and many other field crops; with methods for testing the value of milk; with methods and appliances for destroying insect pests; with remedies for diseases of the tomato and other garden crops; and more extensive work has been done with grasses and forage crops than has been attempted at any other Station in this country. A large amount of work has been done in the testing of new varieties of fruits, and special attention has been given to the finding of remedies for the insects affecting stored grains, the screw worm, and the horn fly. Samples of mineral waters, of marls and other soils sent by correspondents in various parts of the State, have been analyzed, free of charge, a work which has required considerable time and has involved no small expense.

The Station has demonstrated the value of potash fertilizers, and the doubtful value of phosphatic fertilizers on the loam soils which contain lime; and the reverse of this on the comparatively fresh soils of the pine woods region, where lime is deficient; and the need for the use of both these elements in fertilizers for use on the more sandy soils of the long leaf pine region. As from one-third to one-fifth the cost of ordinary commercial fertilizers is for each of these two elements, one of which has been shown to be unnecessary on fully four-fifths of our lands, this demonstration alone will save to the planters of the State many times the cost of the Station annually. It has also shown that for the "black prairie" and creek bottom soils no commercial fertilizer is as economical, or as effective, as is the plowing under of some green crop like melilotus or red clover. In its work with varieties of cotton, it has shown that none of the late-maturing long staple varieties are as profitable in the upland regions of the state as are the early-maturing short staple sorts. In its work with corn, in which nearly one hundred varieties have been used in tests extending through five years, it has shown that, contrary to the general belief, the white varieties yield more bushels of shelled grain to the acre than do the yellow varieties. In feeding, it has shown that we can grow hay which is more valuable, ton for ton, than is that imported from the North. By its tests of different forage plants, both for hay and for the recuperation of exhausted fields, it has awakened a general interest in the subject, and the work already accomplished in that direction has had marked results in changing the crop system of the State. The demonstration that our home-grown forage plants have a feeding value fully equal, and in many cases superior, to those grown in the North, has done much to encourage stock-growing and immigration; and the still more important fact that the various clovers which can be made to produce profitable crops here also furnish the best and most economical method for fertilizing the soil at the same time, is resulting in the saving of thousands of dollars which would otherwise have to be expended in the purchase of commercial fertilizers, and is working a lasting improvement in the condition of our farms.

The deep interest of the farmers in the work of the Station is shown in the constantly increasing number of letters received asking for statements of results, for advice in regard to the treatment of certain crops and soils, the use of certain fertilizers, the feeding of stock, the handling of milk and butter, the treatment of animal diseases, methods for the destruction of insects and fungi, and the many other subjects which affect the agriculture of the State. Members of the Station force are always glad to receive such letters of inquiry, and to answer them as fully as possible.

Details of the work of the Station are published in frequent bulletins and reports, of which thirty-two have been printed up to the present time, and which are sent, free of charge, to all farmers in this State who apply for them. During the present year about 5,500 copies of each bulletin have been mailed, this number being an increase of about 1000 over the number mailed in 1892.

An itemized inventory of Station property is presented herewith, showing aggregate values to be:

Buildings, permanent improvements, etc.........	$ 8175 00
General equipment..........................	8038 97
Cash and produce on hand.....................	1633 97
Total..	$17,847 94

Respectfully submitted,

S. M. TRACY,
Director.

MECHANIC ARTS.

AGRICULTURAL COLLEGE, MISSISSIPPI,
NOVEMBER, 1893.

Gen. S. D. Lee, Agricultural College, Miss.:

DEAR SIR—The following is respectfully submitted as my second biennial report:

Since my last report important additions have been made to this Department. A building, for Forage and Foundry-work, has been erected and the same furnished with proper equipments. A number of first-class machines, for iron-work, has been added and instruction is now being given in Carpentry, Pattern-making, Blacksmithing, and Machine-work.

The classes in the shops this session are unusually large, and so great is the number at times that some students are excused on account of not having sufficient accommodations.

The course in Mechanic Arts seems to be growing in favor amongst the students as you may see from the number who have selected it. There are forty-four Freshmen and twenty-seven Preparatory students in Carpentry, seventeen Sophomores in Blacksmithing, and seven Juniors in Machine-work—all having voluntarily selected the course. A certain portion of the Agricultural students, namely, the Sophomore, are required to spend the session, that is, about four hours per week, at Carpenter-work. The Agricultural Carpentry class numbers about twenty students.

Students are allowed to select either of the courses—that is, the Agricultural or Mechanical—as desired. The Mechanical course is an especially heavy one in mathematics, and as students are protected from the weather during work-hours, it is also a heavy one in the work line, as work is compulsory during the entire session. In comparing the two courses, the Agricultural has the advantage from the students' point of view, in less amount of work required and payment for same, while in the other course work is pursued through the entire session, and no pay allowed, as the work done is purely educational.

The expenses for the various shops during the next two years will be somewhat greater than the two just passed, owing to the additions made. They will be as follows:

Coal and coke	$ 700	
Oil	50	
Packings and waste	50	
Small tools	1,000	
Painting and building	100	
Engineers' wages	800	
		$ 2,700

Judging from the large number of students pursuing the course it becomes the College to foster the desire, and as they are showing a decided taste for mechanics it is only just that they should have the best advantages. It is absolutely necessary to add more apparatus in order to accommodate the growing classes. Already the pressure of being crowded is felt, namely in the blacksmith shop. There is now a class of seventeen students in this shop and it is equipped for only twelve students.

Our present equipment is far from complete, and if we are to have a Mechanical department, it should be one that will compare favorably with such schools as Purduee University, University of Wisconsin, and Georgia School of Technology.

Here is a set of tools that we absolutely need, and such are found in all first-class shops :

CARPENTER SHOP.

One 24-inch wood planer	$ 250	
One wood shaper	250	
Eighty sets chisels and planes	120	
One hundred sets turning tools	100	
		$ 720

BLACKSMITH SHOP.

Four forges, piping and tools	$ 175	
One shearing machine	200	
		$ 375

MACHINE SHOP.

One guage testing machine	$ 125	
One steam engine indicator	100	
One milling machine	1000	
One universal emery grinder	300	
One 11-inch foot power lathe	125	
One 30-inch engine lathe	1200	
One pair planer centers	60	
		$2910
Cost of new tools		$4005

Thanking you, Mr. President, for courtesies shown and advice given, I am

Very respectfully yours,
Harry Gwinner.

DEPARTMENT OF HISTORY AND CIVICS.

AGRICULTURAL COLLEGE, MISS.,
October 31, 1893.

Gen. S. D. Lee, President:

DEAR SIR: I have the honor to make the following report of my work in the Department of History and Civics:

This is one of the new Departments of the College, and owes its existence to an act of the board of trustees in June, 1892. Its establishment is due chiefly to the growing importance of the subjects embraced, and to the fact that the department that had supervision of these subjects was so over-crowded with work that sufficient attention could not be given them to meet the necessities of the case. These subjects bear directly upon social, business, and industrial life. As yet the organization of this department has required no increase in the teaching force, since the professor in charge does the work of a regular assistant in the department of English.

The subjects now included in the department are political economy, civil government, English history and general history.

The juniors take political economy, civil government and general history, and the freshmen English history. In each of these studies instruction is given by means of text books, supplemented by debates and extended essays. Outlines and statistical maps are also used, and the teaching made as practical as possible.

Seventy-four students (fourteen juniors and sixty freshmen) reported for instruction in this department during the past session, and there will be over one hundred in the two classes this session.

Political Economy—In this subject the fundamental principles were studied, and special attention was directed to the economies of agriculture, which embrace the waste of land, the waste of animal forces, the want and waste of capital, the waste of poor and insufficient stock and the waste by improper rotation.

Civil Government—The object kept constantly in view in the teaching of this subject was, that it is a training for citizenship, and to this end the origin, history, growth, and development of our governmental institutions were studied, the constitution of Mississippi read, and as close a study of the constitution of the United States made as circumstances would permit.

General History—Three months is the time allowed to this subject, and in its teaching the aim was to give the students at least a fair grasp of the main course of human events. The facts were studied with that in view. The philosophy of history cannot be pursued to any great extent until our library is better supplied with reference books.

English History—In the study of this subject, attention was directed to the gradual development of the English people, and to the great cost in treasure and in blood, of both civil and religious liberty. The facts were closely studied with a view to tracing their causes and relationship and their bearing upon our governmental institutions.

Essays.—Every student was required to present one or more original papers on some topic assigned from each of the above studies. Of these extended essays there were during the past session about 160, and in addition, there was possibly a greater number of original addresses written by the juniors and seniors on subjects that fell in the department of History and Civics than in any other department of the College. These addresses were chiefly on practical subjects taken from political economy. The interest in all the subjects taught was marked and the progress gratifying.

Needs of the Department.—We need at least six weeks longer on the subject of political economy and twelve weeks of United States history somewhere in the college curriculum. This is all-important, as more than fifty per cent of the students that enter our college classes directly from the common schools are conditioned on this subject. This fact was brought out by the recent entrance examinations. A passing knowledge of the subject of United States history is essential to a proper appreciation and understanding of our institutions. The department is also in need of charts, maps, globes, reference books and other appliances. $250 spent in this way would greatly facilitate the work. This report is

Very respectfully submitted,
J. M. White,
Professor of History and Civics.

MENTAL AND MORAL SCIENCE.

Agricultural College, Miss.
November 1, 1893.

Gen. S. D. Lee, President:

Dear Sir.—I have the pleasure and the honor to report that the work done in these branches in the extended time given to them by the rearrangement of the curriculum has been far more satisfactory during the past two years than before. An entire term is now given to these studies instead of half a term, as in previous years; when in reality, only Moral Science was included in the course of study.

We do not pretend in one short term to investigate fully these profound subjects; but still the general divisions, fundamental principles, and much more that is interesting and profitable in the study of mind and morals, can be acquired in even this short time.

These subjects are taught during the third term of the Senior year. Mental Science during the first half of the term, and moral science during the latter half.

In 1891–'92 twenty students completed the course in these two branches, ten of whom made 90, or above, in their final examination on Mental Science. In Moral Science, their record was equally as good.

In 1892–'93, eighteen students were in the class, and the work accomplished was fully as gratifying as that of the the year before. Fewer students made the very high grades reached by a number in the class of '92, but the average grade of scholarship in this class was somewhat higher than that of the preceding year.

In addition to the regular text-book study of these sciences, by means of brief biographical sketches of eminent ancient and modern philosophers, and summaries of their systems, assigned to individual members of the class for preparation, and read before the class at specified times, a general acquaintance with the history of philosophy is given to the students, and the distinctive tenets of the leading schools of thought and morals, in the past and present, are to a limited extent, set forth and comparisons drawn.

The classes have always taken marked interest in these studies, and I believe have been greatly benefited by them. For, as I have before stated in our catalogue, the vigorous thought processes involved and the clear and precise expression thereof required in these sciences, added to the higher and nobler motives which they furnish for right thinking, right feeling, and right doing, cannot fail to recommend them to thoughtful men as extremely valuable for the mental and moral culture which they afford; and when thus considered, what is not so generally conceded, their "practical" value will readily be admitted.

Respectfully submitted,

Dabney Lipscomb,
Professor of Mental and Moral Science.

PREPARATORY DEPARTMENT.

AGRICULTURAL COLLEGE, MISS.,
November 1, 1893.

Gen. S. D. Lee, President:

DEAR SIR: In conformity to law, I submit the following report of the Preparatory Department for the sessions of 1891–92 and 1892–93:

GENERAL STATEMENT.

This department is designed to furnish a thorough elementary education to young men, particularly the sons of farmers, who are deprived of the advantages of a good high school near their homes. Also, to prepare for the Freshman class, such as desire to take the college course.

For convenience and thoroughness in teaching, the students in this department are divided into four or five sections, or classes, according to their scholarship as shown by the monthly reports, being promoted to higher or reduced to lower sections as improvement or retrogression in scholship during the session may require.

COURSE OF STUDY AND METHODS OF INSTRUCTION.

The course of study requires only one year for its completion. Those who fail to complete it in that time, will not be promoted to the Freshman class, but may, if they choose, review the course next session.

The subjects taught are the following: English grammar and composition, penmanship, declamation, arithmetic, kook-keeping, algreba to equations of the third degree, geography, United States history, agriculture, horticulture, and drawing.

Instruction in all branches is made as thorough and as practical as possible. To cause pupils to think for themselves and express their thoughts correctly and easily, thus increasing their knowledge and developing their power to acquire knowledge both within and without the text-book, is the chief end of all our instruction. By numerous and varied exercises, we also endeavor to make them skillful in the application of the knowledge which they gain of different subjects.

English, in which most of the applicants are quite deficient, is taught practically rather than theoretically. Composition work of various kinds is frequently required; such as, exercises in punctuation and the use of capitals, the reproduction of narratives and descriptions read aloud by the teacher, the writing of letters of different nature, essays on familiar subjects, and occasional debates upon topics suggested by the lessons. By an arrangement of the daily program, one hour or more of one afternoon in each week is devoted exclusively to such work as this, and to instruction and practice in the delivery of declamations.

Arithmetic, oral and written together, is taught inductively; developing first the principle involved, and from that proceeding to the definition or rule—"through processes to rules" being the order of instruction. Here we aim at close reasoning, correct expression, and accuracy and rapidity in execution. It is almost needless to add that especial attention is paid to the business portions of Arithmetic as preparation for the study of book-keeping in the Freshman class; and, as a further preparation, students are made familiar with the ordinary language employed in writing notes, receipts, drafts, bills of sale, and other business forms.

The agricultural and other industrial features of Geography are prominently set forth; that is, the students are taught not only where a state or country is, its size, population, capital, and chief cities; but also, what is of equal, if not greater importance, its natural features, soil, climate, productions, the industries of its people, and their progress in civilization. The natural advantages, resources, and industries of Mississippi are made the objects of special study. The great events, distinguished names, stirring questions, and remarkable inventions recorded in United States History are carefully investigated. The various functions of the general and the state government are analyzed and compared. The result of such study, it is believed, can hardly be other than the development of an intelligent, patriotic spirit, and proper preparation for the active and responsible duties of citizenship.

Agriculture is taught during the first half of the term, at the very beginning of the student's college course, by means of an elementary text-book, (Gulley's First Lessons in Agriculture), admirably adapted to the purpose. Agricultural interests throughout the State would, I believe, be greatly improved by a wide circulation of this excellent little book among those engaged in farming. By practical talks and simple experiments before the class and the use of a variety of means of illustration, Mr. J. J. Gill, the instructor for the last two years in this subject, did much to render its study more attractive and helpful to the students. Mr. J. S. Wallace, who is now teaching it, is pursuing similar methods with good results.

CHANGE IN THE COURSE OF STUDY.

The course of study, you will observe, has been but slightly changed; yet some alterations and additions have been made, which should be noted. Instruction in penmanship and business forms was dropped during the second term of 1891–2, and horticulture daily, for half the term, was added to the course. During the latter half of this term, lectures on the selection and care of stock and the nature and treatment of their common diseases, are given twice a week to the students by the Professor of Veterinary Science. I consider this change in the course a valuable one; affording, as it does, instruction in two special lines of agriculture, which are growing rapidly in importance; and impressing more deeply the general principles of agriculture taught in the first term.

It might be well also to add that the lessons in Botany, given in the third term by the Professor ot Biology, have been increased in number and scope, extending considerably the knowledge of this science so closely allied to agriculture. Students are required to make notes of the instruction given in these added branches, and at stated times present these notes, neatly copied in tablet form, for the inspection and approval of the instructor.

AFTERNOON WORK.

As before stated, one hour of one afternoon of each week is devoted to exercises in various forms of English composition and training in declamation. This work has been more thoroughly systematized, since our last report, and hence made more profitable to the students, as is shown by their more rapid improvement in them.

Mechanical drawing is also taught one hour of each week by some instructor in the Mechanical Department. I regret that more time cannot be given to this important subject.

On other afternoons of the week, students drill, or work in the farm or garden. By application to the President, those who desire it are given instruction and practice in carpentry in the Mechanical Department two or more afternoons in each week.

ATTENDANCE AND SCHOLARSHIP.

The total enrollment for 1891–2 was 125. In 1892–3, owing largely, I think, to the addition of commercial arithmetic to the Freshman course ot study, thereby enabling applicants with a lower grade of preparation to enter that class, the enrollment was reduced to 83; and the attendance the present session, for the same reason combined with the general financial depression, will not probably exceed that number, as only 55 have up to date been enrolled in this department. By the first of January, however, twenty-five or thirty more are usually added to our number at this time of the year.

This lowering of the average grade of preparation of those in this department, demands of us more skillful, systematic teaching, and of the students, more diligent study, in order that they may be more properly prepared for the Freshman class in one year. With two or three regular, trained assistants, I believe that this can still be done; for with such help last year the percentage of monthly attendance and of promotions to the Freshman class was about the same as that of the year before when the total enrollment was considerably greater. It may be interesting to note that of the fifty-one promoted to the Freshman class in 1893, forty-three returned the next session, and were duly enrolled in the that class.

ASSISTANTS.

J. C. Herbert, A. M. Maxwell, J. J. Gill, and J. S. Wallace have been the regular assistants in this department, though Mr. Wallace is the only one that has given his full time to it. Mr. Herbert is engaged half of his time in the Department of Mathematics, Mr. Maxwell teaches only two terms in the Preparatory Department, and Mr. Gill resigned January 15, 1893, on account of ill health. To the earnestness and efficiency of these instructors is due in a large measure the success which has attended this department during the past two years. To Dr. Tait Butler and Mr. W. D. Browning, I am also indebted for one or two hours' teaching a day during the third term of both the years covered by this report.

Messrs. Herbert (half his time), Maxwell (two terms), and Wallace constitute, with me the teaching force for the present session.

EQUIPMENT.

This department was well supplied two years ago with apparatus for illustration of most of the subjects taught, and folding desks and tablet-arm chairs were placed in several of the rooms. These improvements have greatly facilitated instruction, especially in penmanship and book-keeping, for which we before had no suitable accommodations.

But to one urgent need of the department, I would again call your special attention, namely, a better supply of reading matter in the library for Preparatory students. A sufficient number of historical, biographical, and other works adapted to their needs and attainments, would enable us to do much toward cultivating in them a taste for good literature, and tend to the development of a reading habit which would insure their progress in knowledge and culture long after college ties are sundered. If the means are not now available for such a purpose, I trust this item will be included in the estimate of expenses for which you will ask appropriation by the next legislature.

With due acknowledgment of special obligations to you and to my assistants, and with hearty thanks to you, to them, and to others who have aided me in any way, this report is Respectfully submitted,

DABNEY LIPSCOMB,
Professor in Charge Prep. Dep't.

AGRICULTURAL COLLEGE, MISS.,
October 23, 1893.

Gen. S. D. Lee, President:

DEAR SIR—I respectfully make the following report as Surgeon of the Mississippi Agricultural and Mechanical College, which will differ but little from same report made November 1, 1891.

The sanitary state of the campus has been all that could be desired. All refused matter and filth attending so large a body of students and officers have been well cared for and in no way allowed to reach the drinking water. The cisterns are all in good condition, and the water in each is still analyzed once or twice yearly, making it impossible for impure water to exist in any one of them without our knowledge.

The diet of students has been wholesome. Our facilities for taking care of the sick are better than they can get at home. We have a hospital with eight rooms, four large and four small ones, a gasoline stove for the purpose of making and warming food and making other necessaries for the sick, and a good cemented cistern that will hold about five hundred barrels of water. We have a skilled nurse, who sleeps in the hospital, gives all the medicines, and is with the sick at all hours. The health of the students, since my last report, November 1, 1891, has been good. We had one death from pneumonia last session, out of five cases of pneumonia.

This makes only one death in the last five years we have had at the college, out of an average attendance of over three hundred students. We have been particularly fortunate in this respect, as there have been some very seriously ill students in the hospital. It is my duty to have regular hours at my office, to prescribe for the sick and grant excuses to all students who are unable to perform the duties of that day. I am also the sanitary officer of the institution, and as such I am to determine when the peculiar state of the weather demands, in the interests of health, the cessation of any duty to be performed by or required of the students; also whatever else is required of me, as health officer, by the President. For said services I am paid a fee of five dollars by the College for every student that matriculates. This fee is collected from the students.

W. H. Barr, Surgeon.

REPORT OF STEWARD.

Agricultural College, Miss.,
November 1, 1893.

Gen. S. D. Lee, President :

Dear Sir—I would most respectfully submit the following report of the Steward's department for the sessions of 1891–92 and 1892–93, presumably covering a period of two college years :

As is generally known, the Steward's department is being conducted on what is known as the mess system, which is the fairest, most impartial and economical of any known system of boarding. By its workings a student pays only for what is consumed each month. All supplies are bought at the lowest wholesale price for cash, and board charged at actual cost. When considering the fact that all the servants' hire, kerosene for lights, breakage of crockery, delicacies for sick in hospital, etc., is included, the average for the last two sessions, $8.54 and $8.50 respectively, is very low. Experience has demonstrated the fact that the more students, the cheaper the board.

At the Agricultural College of Michigan (I suppose the largest and most influential of its kind) the boarding is by clubs of fifty. The expenses for board there runs from $99.30 to $112.00 per session, while ours has never been over $76.86 for the same time.

Our system of boarding has commended itself to consideration from other States, for we find at Clemson College, in South Carolina, which was opened for the reception of students July 6, 1893, a counterpart of it.

The department is well equipped with crockeryware, etc., for the accommodation of 250 students.

Appended you will find an inventory of property belonging to the department, amounting to $4128.85, which shows an increase over last report of $142.60.

Respectfully submitted,
W. J. Gallaway, Steward.

REPORT OF PROCTOR.

Agricultural College, Miss.,
October 28, 1893.

Gen. S. D. Lee, President:

Dear Sir—I have the honor to submit the following report as Proctor of buildings for Mississippi Agricultural and Mechanical College.

The buildings are all in need of repairs, which is pecfectly natural, as they have been in use thirteen years, with an average attendance of 307 students, who as a rule are not as careful with public property as they should be.

I will deal with the buildings seriatim. The dormitory needs to have all the wood-work that is exposed to the weather re-painted, and all gutters and tin roofs to the towers renewed. Unfortunately the gutters are made on the ends of the joists, and when a leak issprung it wets the end of same, which soon decays as the sun canot get to the dampness to dry it out. Almost irreparable loss results in this way.

The dormitory has several cracks in its walls. Tiee-rods have been put in; this is all that can be done at present.

The academic building needs the same repairs as the dormitory, with the addition of a new veranda, which should be made of iron. This building also needs additional columns in the assembly hall, with brick and cement foundations. The residences occupied by the professors and officers need to be recovered and repainted.

An itemized statement of all repairs needed will be found below. The quality of paint and shingles used when the buildings were made, could be improved upon, and I do not think the buildings would need repairs so soon again.

The assessed valuation of buildings belonging to the State at Mississippi A. and M. College, is $112,000.00, and the amount asked for repairs, about $5,000.00, is a very reasonable one; since the buildings as stated before have been in use twelve years, without there having been made an appropriation for repairs.

This amount asked for is necessary for the protection of public property.

The amounts needed are as follows:

For painting wood-work in domitory on outside..	$ 250 00
For tin-work, gutters, roofs, etc..................	500 00
For iron veranda, academic building...............	2,500 00
For painting and gutters, Academy buildings.....	350 00
For iron columns, tie-rods, etc....................	100 00
For covering and painting sides and top of ten professors professors' houses at........$131 25	$1312 50
Total..................................	$5,012 50

Respectfully submitted,
W. J. Gallaway, Proctor.

REPORT OF STATE CHEMIST.

Mississippi A. & M. College,
November 1, 1893.

Gen. S. D. Lee, President:

Dear Sir—I have the honor to submit the following report of the fertilizer control for the seasons of 1891–92 and 1892–'93.

The work of the season of 1891–'92 was done under the old fertilizer law, which required analyses made of all brands sold or offered for sale in the State. A sample of each brand was sent to the laboratory by the manufacturer, as required by law, and the analysis was made and recorded, and a copy of it was sent the manufacturer. These analyses were never published, as there were no funds to defray the expense of publication. We do not see that any good would be accomplished by publishing them now, and hence, they are not embodied in this report. The fees received for this work were turned over to the secretary of the college, as required by law; and I refer you to his report for the statement as to the amount of receipts with the expenditures of same.

The present fertilizer law went into effect November 1, 1892. It is a very superior law to the old one, and accomplishes the objects for which a fertilizer law is made in a very satisfactory manner. Under this law, the duties of the State Chemist may be briefly outlined as follows:

1. Analysis of each brand of fertilizer sold in the State and furnishing the same to the manufacturer.
2. Collection of samples of the different brands, from the goods sold or offered for sale.
3. Analysis of samples collected by the department.
4. Analysis of samples of fertilizers sent by farmers or other purchasers.
5. Publication and free distribution of bulletins and circulars for farmers, dealers and purchasers.
6. Purchasing of tags and the issuing of same to manufacturers.
7. Keeping of record books of the analyses made and the tags issued for each brand.
9. Promiscuous analyses; such as soils, marls, clays, limestones, etc., and the identification of minerals. This is voluntary, as the law does not refer to this kind of work.

SEASON OF 1892–'93.

The manufacturers have all complied with the law, having all brands analyzed and putting official tags on all packages sold. About the first of January, a bulletin was issued giving information in regard to the valuation of fertilizers, the relative values of those sold in the State, our analysis of the different brands upon the sample sent by the manufacturer, the manufacturer's guarantees, the fertilizer law, and instructions to farmers for taking and sending samples for analysis free of charge. In August a second bulletin was published, giving our analyses of the samples collected by the department together with such comments as were necessary or appropriate as to the character of the goods that had been put on the market. Most of the manufacturers sold goods that were above their guarantees. The most marked failure to sell goods practically up to their guarantee was in the case of the Sylvarina Manufacturing Company, whose goods were almost without any value, the best being worth comparatively, only $2.98 per ton.

The work of actually inspecting the goods sold has already proven a great benefit. It is the only way of protecting the purchaser against fraudulent goods. It also shows unmistakably the character of the goods, and gives a correct basis for the comparison of the different brands, and protects the manufacturer when the character of his goods is called in question.

The report of the secretary will show the receipts and disbursements of the funds received. It has taken the entire amount of the funds to defray the expenses necessary to properly carry out the provisions of the law.

To do the work necessary to properly inspect the fertilizers sold in the State, we have had three assistants whose salaries have been paid entirely out of the fertilizer fund.

Respectfully submitted,
W. L. HUTCHINSON,
Ex-officio State Chemist.

Laws of Congress Relating to the College.

AN ACT donating public lands to the several States and Territories which may provide Colleges for the benefit of agriculture and the mechanic arts.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there be granted to the several States, for the purpose hereinafter mentioned, an amount of public land, to be apportioned to each State a quantity equal to thirty thousand acres for each Senator and Representative in Congress to which the States are respectively entitled by the apportionment under the census of eighteen hundred and sixty. *Provided*, that no mineral lands shall be selected or purchased under the provisions of this Act.

SEC. 2. *And be it further enacted*, That the land aforesaid, after being surveyed, shall be apportioned to the several States in sections or subdivisions of sections not less than one quarter of a section; and whenever there are public lands in a State subject to sale at private entry at one dollar and twenty-five cents per acre, the quantity to which said State shall be entitled shall be selected from such lands within the limits of such State; and the Secretary of the Interior is hereby directed to issue to each of the States in which there is not the quantity of public land subject to sale at private entry at one dollar and twenty-five cents per acre, to which said State may be entitled under the provisions of this Act, land scrip to the amount of acres for the deficiency of its distributive share; and scrip to be sold by said State, and the proceeds thereof applied to the uses and purposes prescribed in this Act, and for no other use or purpose whatever; *Provided*, that in no case shall any State to which land scrip may thus be issued be allowed to locate the same within the limits of any other State, or of any Territory of the United States, but their assignees may thus locate said lands scrip upon any of the unappropriated lands of the United States subject to sale at private entry, at one dollar and twenty-five cents or less per acre; *and provided further*, that not more than one million acres shall be located by such assignees in any one of the States; *and provided further*, that no such location shall be made before one year from the passage of this Act.

SEC. 3. *And be it further enacted*, That all the expenses of management, superintendence and taxes, from date of selection of said lands previous to their sales, and all expenses incurred in the management and disbursement of the moneys which may be received therefrom, shall be paid by the States, to which they may belong, out of the treasury of said States, so that the entire proceeds of the sale of said lands shall be applied without any diminution whatever to the purposes hereinafter mentioned.

SEC. 4. *And be it further enacted*, That all moneys derived from the sale of the lands aforesaid by the States to which the lands are apportioned, and from the sale of land scrip hereinbefore provided for, shall be invested in stocks of the United States, or of the States, or of some other safe stocks yielding not less than five per centum upon the par value of said stocks; and that the moneys so invested shall constitute a perpetual fund, the capital of which shall remain forever undiminished (except so far as may be provided in fifth section of this Act), and the interest of which shall be inviolably appropriated by each State which may take and claim the benefit of this Act to the endowment, support and maintenance of at least one College, where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and the mechanic arts, and in such manner as the legislatures of the States may prescribe, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions in life.

SEC. 5. *And be it further enacted*, That the grant of land and land scrip hereby authorized shall be made on the following conditions, to which as well as to the provisions hereinbefore contained, the previous assent of the several States shall be signified by legislative acts:

1. If any portion of the fund invested as provided by the foregoing section, or any portion of the interest thereon, shall by any act or contingency be diminished or lost, it shall be replaced by the State to which it belongs, so that the capital of the fund shall remain forever undiminished; and the annual interest shall be regularly applied without diminution to the purposes mentioned in the fourth section of this Act, except that a sum not exceeding ten per centum upon the amount received by any State under the provisions of this Act may be expended for the purchase of lands for

sites of experiment farms whenever authorized by the respective Legislatures of said States.

2. No portion of said fund, nor interest thereon, shall be applied directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings.

3. Any State which may take and claim the benefit of the provisions of this Act, shall provide within five years at least not less than one College, as described in the fourth section of this Act, or the grant to said State shall cease; and said State shall be bound to pay the United States the amount received of any lands previously sold, and the title to purchasers under the State shall be valid.

4. An annual report shall be made regarding the progress of each College, recording any improvements and experiments made, with their costs and results, and such other matters, including State and industrial statistics, as may be supposed useful; one copy of which shall be transmitted by mail free by each to all the other Colleges which may be endowed under the provisions of this Act, and also one copy to the Secretary of the Interior.

5. When lands shall be selected from those which have been raised to double the minimum price, in consequence of railroad grants, they shall be computed to the States at the maximum price, and the number of acres proportionately diminished.

6. No State, while in a condition of rebellion or insurrection against the government of the United States, shall be entitled to the benefit of this Act.

7. No State shall be entitled to the benefit of this Act unless it shall express the acceptance thereof by the Legislature within two years of the date of its approval by the President.

Sec. 6. *And be it further enacted,* That land scrip issued under the provisions of this Act shall not be subject to location until after the first day of January, one thousand eight hundred and sixty-three.

Sec. 7. *And be it further enacted,* That the land officers shall receive the same fees for locating land scrip issued under the provisions of this Act as are now allowed for the location of military bounty land warrants under existing laws; *Provided,* that maximum compensation shall not be thereby increased.

Sec. 8. *And be it further enacted,* That the Governors of the several States to which scrip shall be issued under this Act shall be required to report annually to Congress all sales made of such scrip until the whole shall be disposed of, the amount received for the same, and what appropriation has been made of the proceeds.

Approved July 2, 1862.

AN ACT to establish Agricultural Experiment Stations in connection with the colleges established in the several States under the provisions of an Act approved July 2, 1862, and of the Acts supplementary thereto.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress Assembled, That in order to aid in acquiring and diffusing among the people of the United States useful and practical information on subjects connected with agriculture, and to promote scientific investigation and experiment respecting the principles and applications of agricultural science, there shall be established, under direction of College or Colleges, or Agricultural Department of Colleges in each State or Territory established, or which may hereafter be established, in accordance with the provisions of an Act approved July 2, 1862, entitled "An act donating public lands to the several States and Territories which may provide Colleges for the benefit of Agriculture and the Mechanic Arts," or any of the supplements to said Act, a department known and designated as an "Agricultural Experiment Station;" *Provided,* that any State or Territory in which two such Colleges have been or may be so established, the appropriation hereinafter made to such State or Territory shall be equally divided between such Colleges, unless the Legislature of such State or Territory shall otherwise direct.

Sec. 2. That it shall be the object and duty of said Experiment Stations to conduct original researches or verify experiments on the physiology of plants and animals; the diseases to which they are severally subject, with the remedies for the same; the chemical composition of useful plants at their different stages of growth; the comparative advantages of rotative cropping as pursued under a varying series of crops; the capacity of new plants or trees for acclimation; the analysis of soils and water; the chemical composition of manures, natural or artificial, with experiments designed to test their comparative effects on crops of different kinds; the adaptation and value of grasses and forage plants; the composition and digestibility of the different kinds of food for domestic animals; the scientific and economic questions involved in the production of butter and cheese; and such other researches or experiments bearing directly on the agricultural industry of the United States as may in each case be deemed advisable, having due regard to the varying condition and needs of the respective States and Territories.

Sec. 3. That in order to secure, as far as practicable, uniformity of methods and results in the work of said stations, it shall be the duty of the United States Commissioner of Agriculture to furnish forms, as far as practicable, for the tabulation of results of investigation or experiments; to indicate, from time to time, such lines of inquiry as to him shall seem most important; and, in general, to furnish such advice and assistance as will promote the purposes of this Act. It shall be the duty of each of said stations annually, on or before the first day of February, to make to the governor of the State or Territory in which it is located a full and detailed report of its operations, including a statement of receipts and expenditures, a copy of which report shall be sent to each of said stations, to the said commissioner of agriculture, and to the secretary of the treasury of the United States.

Sec. 4. That bulletins or reports of progress shall be published at said stations at least once in three months, one copy of which shall be sent to each newspaper in the States or Territories in which they are respectively located, and to such individuals actually engaged in farming as may request the same, and as far as the means of the station will permit. Such bulletins or reports and the annual reports of said stations shall be transmitted in the mails of the United States free of charge for postage, under such regulations as the postmaster general may from time to time prescribe.

Sec. 5. That for the purpose of paying the necessary expenses of conducting investigations and experiments and printing and distributing the results as hereinbefore prescribed, the sum of $15,000 per annum is hereby appropriated to each State, to be specially provided for by congress in the appropriations from year to year, and to each Territory entitled under the provisions of section eight of this Act, out of any money in the treasury proceeding from the sales of public lands, to be paid in equal quarterly payments, on the first day of January, April, July and October in each year, to the Treasurer or other officer duly appointed by the governing boards of said Colleges to receive the same, the first payment to be made on the first day of October, 1887; *Provided*, however, that out of the first annual appropriation so received by any station an amount not exceeding one-fifth may be expended in the erection, enlargement, or repair of a building or buildings necessary for carrying on the work of such station; and thereafter an amount not exceeding five per centum of such annual appropriation may be so expended.

Sec. 6. That whenever it shall appear to the Secretary of the Treasury from the annual statement of receipts and expenditures of any of said stations that a portion of the preceding annual appropriation remains unexpended, such amount shall be deducted from the succeeding annual appropriation to each station, in order that the amount of money appropriated to any station shall not exceed the amount actually and necessarily required for its maintenance and support.

Sec. 7. That nothing in this Act shall be construed to impair or modify the legal relation existing between any of the said Colleges and the government of the States or Territories in which they are respectively located.

Sec. 8. That in States having Colleges entitled under this section to the benefits of this Act and having also Agricultural Experiment Stations established by law separate from said Colleges, such States shall be authorized to apply such benefits to experiments at stations so established by such States; and in case any State shall have established under the provisions of said Act of July 2d aforesaid, an Agricultural Department or Experimental Station, in connection with any University, College or institution not distinctively an Agricultural College or School, and such State shall have established or shall hereafter establish a separate Agricultural College or School, which shall have connected therewith an Experimental Farm or Station, the Legislature of such State may apply in whole or in part the appropriation by this Act made, to separate Agricultural College or School, and no Legislature shall by contract expressed or implied disable itself from so doing.

Sec. 9. That the grant of moneys authorized by this Act are made subject to the legislative assent of the several States and Territories to the purposes of said grants; *Provided*, that payment of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of its Legislature meeting next after the passage of this Act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

Sec. 10. Nothing in this Act shall be held or construed as binding the United States to continue any payments from the Treasury to any or all the States or institutions mentioned in this Act, but Congress may at any time amend, suspend or repeal any or all the provisions of this Act.

Approved, March 2, 1887.

AN ACT to supply a portion of the public lands to the more complete endowment and support of Colleges for the benefit of agriculture and the mechanic arts, established under the provisions of an act of Congress, approved July second, eighteen hundred and sixty-two.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be, and hereby is, annually appropriated, out of any money in the Treasury not otherwise appropriated, arising from the sales of public lands, to be paid as hereinafter provided, to each State and Territory for the more complete endowment and maintenance of colleges for the benefit of agriculture and the mechanic arts now established, or which may be hereafter established, in accordance with an Act of Congress, approved July second, eighteen hundred and sixty-two, the sum of fifteen thousand dollars for the year ending June thirteenth, eighteen hundred and ninety, and an annual increase of the amount of such appropriation thereafter for ten years by an additional sum of one thousand dollars over the preceding year, and the annual amount to be paid thereafter to each State and Teritory shall be twenty-five thousand dollars, to be applied only to instruction in agriculture, the mechanic arts, the English language, and the various branches of mathematical, physical, natural and economic science, with special reference to their applications in the industries of life, and to the facilities for such instruction; *Provided*, that no money shall be paid out under this act to any State or Territory for the support and maintenance of a college where a distinction of race or color is made in admission of students, but the establishment and maintenance of such colleges separately for white and colored students shall be held to be a compliance with the provisions of this act if the funds received in such State or Territory be equitably divided as hereinafter set forth; *Provided*, that in any State in which there has been one college established in pursuance of the act of July second, eighteen hundred and sixty-two, and also in which an educational institution of like character has been established, or may be hereafter established, and is now aided by such State from its own revenue for the education of colored students in agriculture and the mechanic arts, however named or styled, or whether or not it has received money heretofore under the act to which this act is an amendment, the Legislature of such state may propose and report to the Secretary of the Interior a just and equitable division of the funds to be received under this act between one college for white students and one institution for colored students established as aforesaid, which shall be divided into two parts and paid accordingly, and thereupon such institution for colored students shall be entitled to the benefits of this act and subject to its provisions, as much as it would have been if it had been included under the act of eighteen hundred and sixty-two, and the fulfillment of the foregoing provisions shall be taken as a compliance with the provision in reference to separate colleges for white and colored students.

Sec. 2. That the sums hereby appropriated to the States and Territories for the further endowment and support of colleges shall be annually paid on or before the thirty-first day of July of each year, by the Secretary of the Treasury, upon the warrant of the Secretary of the Interior, out of the Treasury of the United States, to the State or Territorial Treasurer, or to such officer as shall be designated by the laws of such State or Territory to receive same, who shall, upon the order of the trustees of the college, or the institution for colored students, immediately pay over said sums to the treasurers of the respective colleges or other institutions entitled to receive the same, and such treasurers shall be required to report to the Secretary of Agriculture and to the Secretary of the Interior on or before the first day of September of each year, a detailed statement of the amount so received and of its disbursement. The grants of moneys authorized by this act are made subject to the legislative assent of the several States and Territories to the purpose of said grants: *Provided*, that payments of such installments of the appropriation herein made as shall become due to any State before the adjournment of the regular session of Legislature meeting next after the passage of this act shall be made upon the assent of the Governor thereof, duly certified to the Secretary of the Treasury.

Sec. 3. That if any portion of the moneys received by the designated officer of the State or Territory for the further and more complete endowment, support and maintenance of colleges, or of institutions for colored students, as provided in this act, shall, by any action or contingency, be diminished or lost, or be misapplied, it shall be replaced by the State or Territory to which it belongs, and until so replaced no subsequent appropriation shall be apportioned or paid to such State or Territory; and no portion of said moneys shall be applied directly or indirectly, under any pretense whatever, to the purchase, erection, preservation or repair of any building or buildings. An annual report by the president of each of said colleges shall be made to the Secretary of Agriculture, as well as to the Secretary of the Interior, regarding the condition and progress of each college, including statistical information in relation to its receipts and expenditures, its library, the number of its students and professors, and also as to any improvements and experiments made under the direction of any Experiment Stations attached to said colleges, with their costs and results, and such other industrial and economical statistics as may be regarded as useful, one copy of which shall be transmitted by mail to all other colleges further endowed under this act.

SEC. 4. That on or before the first day of July in each year, after the passage of this act, the Secretary of the Interior shall ascertain and certify to the Secretary of the Treasury as to each State and Territory, whether it is entitled to receive its share of the annual appropriation for colleges, or of institutions for colored students, under this act, and the amount which thereupon each is entitled respectively, to receive. If the Secretary of the Interior shall withhold a certificate from any State or Territory of its appropriation the facts and reasons therefor shall be reported to the President, and the amount involved shall be kept separate in the treasury until the close of the next Congress, in order that the State or Territory may, if it should so desire, appeal to Congress from the determination of the Secretary of the Interior. If the next Congress shall not direct such sum to be paid it shall be covered into the treasury. And the Secretary of the Interior is hereby charged with the proper administration of this law.

SEC. 5. That the Secretary of the Interior shall annually report to Congress the disbursements which have been made in all the States and Territories, and also whether the appropriation of any State or Territory has been withheld, and if so, the reasons therefor.

SEC. 6. Congress may at any time amend, suspend or repeal any or all of the provisions of this Act.

Approved August 30, 1890.

LAWS OF THE STATE RELATING TO THE COLLEGE.

AN ACT to establish and organize Agricultural and Mechanical Colleges and to regulate the government of same.

WHEREAS, Section 8, of Article VIII, of the Constitution provides that the Legislature shall, as soon as practicable, provide for the establishment of an Agricultural College or Colleges, and shall appropriate the two hundred and ten thousand acres of land donated to the State for the support of such a College by the Act of Congress, passed July 2, A. D., 1862, or the money or scrip as the case may be, arising from the sale of said lands, or any lands which may hereafter be granted or appropriated for such purposes; and

WHEREAS, The State having accepted said lands and pledged its faith to appropriate the same to the endowment of said institutions of learning; therefore,

SECTION 1. *Be it enacted by the Legislature of the State of Mississippi,* That the institution known as the Alcorn University is hereby established as, and declared to be, an Agricultural College, for the education of the colored youth of the State, and to be hereafter known as the Alcorn Agricultural and Mechanical College of the State of Mississippi.

SEC. 2. *Be it further enacted,* That an Agricultural College is hereby established for the education of the white youth of the State of Mississippi, and shall be known as the Agricultural and Mechanical College of the State of Mississippi, and shall be located and organized as hereinafter provided.

SEC. 3. *Be it further enacted,* That the Governor of the State shall nominate and appoint, by and with the advice and consent of the Senate, nine persons for each of said Colleges, to be Trustees, to serve six years, one for each of said Colleges, to be chosen from each Congressional District, and the remainder for the State at large; five of each Board of Trustees shall be chosen from practical agriculturists or mechanics, or selected from both, as may be deemed advisable. Immediately after they shall be assembled, in consequence of their first appointment, they shall be divided equally into three classes. The term of the first class shall expire two years from the date of their appointment, and the second class four years from the date of their appointment, and the third class at the expiration of six years, so that one-third may be chosen every second year; and if vacancies happen by resignation or otherwise, the Governor may make temporary appointments until the next meeting of the Legislature. The Governor shall be *ex-officio* a member of each of said Boards of Trustees, and shall act as President thereof in all of their meetings when present, but in his absence they may choose a President *pro tem.* Five of the Trustees of each Board shall be a quorum for the transaction of business.

SEC. 4. *Be it further enacted,* That the Secretary of State shall furnish a certificate to each Trustee within ten days after his appointment, notifying him that he has been so appointed; and if any trustee fail for the space of thirty days to inform the Governor of his acceptance, then his appointment shall be void, and his place filled as heretofore provided in cases of vacancies.

Sec. 5. *Be it further enacted*, That each of the Boards of Trustees herein provided for, and their successors in office, be and the same are hereby declared to be a body politic and corporate by their respective names and styles, and shall have a common seal, and each in his own name shall sue and be sued, contract and be contracted with, and may own, purchase, sell and convey property, both real, personal and mixed.

Sec. 6. *Be it further enacted*, That the Governor shall, as *ex-officio* President, convene the Board of Trustees of either of said Colleges, to consider any business connected with the same, whenever he shall deem it expedient to do so.

Sec. 7. *Be it further enacted*, That the Trustees of each College shall elect a Secretary of the Board, whose duty it shall be to record in a well bound book all the proceedings had by said Board, and shall be allowed such compensation for his services as the Board may deem proper.

Sec. 8. *Be it further enacted*, That the state treasurer shall be *ex-officio* treasurer of both boards of trustees, whose duty it shall be to secure and safely keep all moneys belonging to the Agricultural and Mechanical Colleges and to disburse the same under the orders of the board of trustees.

Sec. 9. *Be it further enacted*, That each of said boards of trustees shall possess all the power that is necessary and proper for the accomplishment of the trust reposed in them, viz: the establishment and maintenance of a first-class institution, at which the youth of the State of Mississippi may acquire a common school education, and a scientific and practical knowledge of agriculture, horticulture and the mechanical arts; also of the proper growth and care of stock, without, however, excluding military tactics. They may also adopt all such by-laws and regulations as they may deem necessary for that purpose, not repugnant to the constitution and laws of the State or of the United States.

Sec. 10. *Be it further enacted*, That the board of trustees shall appoint the president and professors of the College, and such other officers as they may think proper to put the College into successful operation, and shall make such laws, rules and regulations for the government of said officers as they may deem advisable. They shall regulate the course of study, rates of tuition, management of the experimental farm, the manner of performing labor and the kind of labor to be performed by the students, together with the course of discipline necessary to enforce the faithful discharge of the duties of all officers, professors and students.

Sec. 11. *Be it further enacted*, That the trustees to be appointed, as hereinbefore provided, shall receive as compensation for their services their actual expenses incurred in attending any of the meetings of the board of trustees, payable out of any funds belonging to the College.

Sec. 12. *Be it further enacted*, That the said board of trustees shall organize under the provisions of this act as soon as practicable after their appointment, and the trustees of the Agricultural and Mechanical College of the State of Mississippi shall, immediately after their organization, proceed to procure, by purchase or donation, a site for the location of the said Agricultural and Mechanical College, with an experimental farm thereto attached of not less than one hundred and sixty acres of land. In the selection of the said site and experimental farm, the trustees shall look to the convenience of the people of every section of the State, the proximity of the proposed site to other public institutions supported in whole or in part by the State, with a view to giving the preference to localities least favored heretofore, and also the facilities for going to and from said College, the advantages and disadvantages of the different sites proposed. and shall locate the same at the place where most advantages are offered; *Provided*, the location shall be at a place known to be healthy; *and Provided*, that said trustees shall give notice for sixty days in three newspapers published in this State, that they will receive proposals and examine sites before locating said College.

Sec. 13. *Be it further enacted*, That the interest arising from the proceeds of the fund known as the Agricultural Land Script Fund is hereby set apart for the use and benefit of said Agricultural and Mechanical Colleges, to be used in equal proportions for the benefit of the youth of both races and Colleges, and shall be drawn from the Treasury by the Board of Trustees on vouchers audited by the Board and approved by the Governor, and filed in the Auditor's office, and upon the filing of such vouchers the Auditor of Public Accounts shall draw his warrant on the State Treasurer for the same from time to time, as funds may be needed to pay the officers and professors of said Colleges, or for any other necessary and proper object connected with the said Agricultural and Mechanical College, not inconsistent with the Act of Congress, approved July 2, 1862.

Sec. 14. *Be it further enacted*, That in order to establish financial equity in all respects between the Colleges herein provided for, a sum equal to the amount heretofore appropriated to the Alcorn University out of the principal arising from the sale of said land script, is hereby appropriated to the college provided for in section two of this Act, and the trustees thereof shall be authorized to use the same in carrying out the provisions of this Act for the benefit of said College not inconsistent with the Act or Acts of Congress donating the same.

Sec. 15. *Be it further enacted,* That this Act take effect and be in force from and after its passage.

Approved February 28, 1878.

EXTRACT OF LAWS FROM ANNOTATED CODE.

CHATER III.

AGRICULTURAL AND MECHANICAL COLLEGE.

Section 11 (767). The College, as incorporated by an Act of the Legislature, approved February 28, 1878, by the name of the "Agricultural and Mechanical College of Mississippi," and established in pursuance of that Act, shall continue to exist as a body politic and corporate, by the name of the "Mississippi Agricultural and Mechanical College," with all its property, and the franchises, rights, powers and privileges heretofore conferred on it by law, or properly incident to such a body, and necessary to accomplish the purpose of its creation; and may receive and hold all real and personal property conveyed to it for such purpose.

Sec. 12 (768). The government of said College shall be in a board of nine trustees, a majority of whom shall be practical agriculturists or mechanics, appointed by the Governor of the State, by and with the advice and consent of the Senate, who shall continue in office for six years, and until successors are appointed; and the trustees shall be ineligible to succeed themselves more than once; but this shall not apply to the unexpired terms of the present incumbents.

Sec. 13. (769). The present trustees shall continue according to their terms, and until successors shall be appointed. As the terms of said trustees shall expire, their successors shall be appointed by the governor by and with the advice and consent of the senate. They shall hold for six years, and until their successors shall be appointed.

Sec. 14. (770). In case of vacancies in the board of trustees during a period when the senate is not in session, the governor may make appointments to fill the vacancies until the senate shall meet, and, thereafter, during the session of the senate, until successors shall be appointed.

Sec. 15. (771). A majority of the board of trustees shall constitute a quorum for the transaction of business.

Sec. 16. (772). The governor of the state, by virtue of his office, shall be president of the board of trustees, but in his absence a president pro tempore may be appointed by the board.

Sec. 17. (774). The trustees may receive their actual expenses incurred in attending any of the meetings of the board, to be paid out of any money belonging to the college.

Sec. 18 (773). The board of trustees shall possess all the power necessary and proper for the accomplishment of the purpose of the trust reposed in it, viz: The establishment and maintenance of a first-class institution, at which the white youth of the State may acquire a common school education, and a scientific and practical knowledge of agriculture, horticulture, and the mechanic arts, and such other subjects of knowledge as may be suitable and embraced in the course of study and practice prescribed by authority of the board of trustees; and it may adopt all such by-laws and regulations as it may deem expedient for this purpose, not repugnant to the constitution and laws nor inconsistent with the object for which said college is established; and it shall do whatever is necessary for the successful operation of said college according to the purpose of its establishment.

Sec. 19 (775). The interest arising from the proceeds of the fund known as the "Agricultural Land Scrip Fund," is appropriated and devoted, to the extent of one-half of it, to said college, and may be drawn from the treasury upon warrant of the Auditor, to be issued upon the requisition of the Treasurer, from time to time, as such interest may accrue and be wanted for the use of the college.

Sec. 20. Tuition shall be free in all branches to students of the State for four years to each, and not longer; and the trustees shall fix the amount of the tuition to be paid by the students of this State after four years of free tuition, and by students from other States or countries.

Sec. 21. The privilege of rooming in the dormitories belongs to the free students, and to the due quota of students from each county, in preference to all others.

Sec. 22. The right belongs to each county to have a number of students admitted proportionate to its number of white educable males, compared with the whole number in the State.

Sec. 23. The apportionment shall be made and announced by the president of the college annually, and communicated to the superintendents of education of the counties.

Sec. 24. The superintendent of each county, after due notice published, shall examine, and, with the consent of the board of supervisors, give certificates of selection to the number of students to which the county is entitled, and this in addition to those already in the college, if any.

SEC. 25. The certificate of selection shall be attested by the clerk of the board of supervisors under its seal, and shall entitle the holder to admission into the college, with all its privileges, to pursue all its industrial branches selected, and to enter the sub-class or class for which he is fitted.

SEC. 26 (Laws 1884, p. 18). The board of trustees shall cause to be reported biennially to the Legislature, during the first week of every regular and special, not extraordinary session thereof, how the money appropriated to the college has been expended, showing the salaries paid to all professors and employes, and generally each and every item of expense; and if any property belonging to the State or the College is used for profit, the reports shall show the expenses incurred in managing the property, and the amount received therefrom.

SEC. 27 (Laws of 1888, p. 54). The money received by this State, under act of Congress, entitled "An Act to Establish Agricultural Experiment Stations, etc.," approved March 2, 1887, and the provisions of which were accepted by this State, by act approved January 31, 1888, and assigned to said college, shall be expended under its direction; and the agricultural experimental station for this State is established at and with said college, and the board of trustees shall have full control thereof.